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**RESEARCH**  
INDEPENDENT INVESTMENT RESEARCH

**Barton Gold Holdings Limited**  
**(ASX:BGD)**

June 2023

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## Investment Profile

Share Price (\$) at at 5 June 2023	0.285
<b>Issue Capital:</b>	
Ordinary Shares (M)	175.99
Options (M)	18.72
Performance Shares	
Fully Diluted (M)	194.62
Market Capitalisation (M)	50.16
12 month L/H (\$)	0.14-0.285

## Board and Management

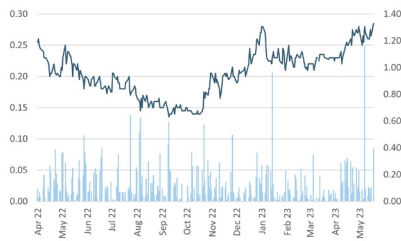
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Kenneth Williams – Non-Executive Chairman  
Alexander Scanlon – Managing Director & CEO  
Christian Paech – Non-Executive Director  
Graham Arvidson – Non-Executive Director  
Neil Rose – Non-Executive Director

## Major Shareholders 31 August 2022

Gocta Holdings Pty Ltd	24.78%
Six Fingers Pty Ltd	7.94%
Telarah Holdings Pty Ltd	7.93%
Gatej Pty Ltd	7.92%

## Share Price Performance



**Note:** This report is based on information provided by the company and other publicly available information as at 5 June 2023.

Analyst: Mike Harrowell

## UNDEREXPLORED GOLD TREND WITH PROCESSING ASSETS

Barton Gold Holdings has a focussed portfolio of gold tenements in the Gawler region of South Australia. The company owns a 650ktpa CIP gold plant currently on care and maintenance and has wholly or partly owned Resources of 1.3Moz in the region. It has the ambition of being a 150Kozpa producer within five years operating on a +2Moz Resource base with over eight years of mine life.

## KEY POINTS

**Barton has the building blocks to become a much bigger company** – The Tunkillia 223 deposit is a substantial Resource at 1.15Moz anchoring a large scale operation if supported by additional extensions and local discoveries. Barton's Board and management are energetic and commercial, looking for ways to create value by restarting its Central Gawler Mill (a 650ktpa CIP gold plant) processing either Barton's own discoveries and/or tolling the ore of others.

**Highly geared to exploration success** – The two historical mines in Barton's tenement holding that have operated in modern times have both been high grade. Companies in surrounding tenements include Marmota (ASX:MEU) and Indiana Resources (ASX:IDA) who have both discovered what appear to be high grade close to surface deposits. The prospects for Barton discovering more high-grade feed for its plant are very good.

**Tunkillia exploration is seeking large lower grade targets and having success** – The 1.15 Moz Au 223 Deposit itself appears to have potential for further extensions, the Area 51 gold zone looks like it will be a material addition to Tunkillia's total inventory, and a number of other targets are being tested.

**Tarcoola has a high-grade open pit with probable extensions** – the Perseverance Mine was producing 2.5g/t Au ore to Barton's Central Gawler Mill during 2017 and 2018. While the company has not yet established new Resources on the open pit, it has drilled extensions of mineralisation ~200 metres below the current pit floor, and has identified a ~300 metre long shallow high grade extension (Perseverance West) behind the southern pit wall.

**Strong news flow over next 12 months** – An updated Tunkillia Resource, and a potential new Tarcoola Resource, are expected by December 2023. Drilling programs are expected to start shortly at Tunkillia and Tarcoola on and near to known mineralisation, and on key regional targets, with a strong focus on adding ounces.

**Cash at 31 March 2023 A\$8.3M** – The company also generates cash (over \$5.2m in the past 2 years) from a number of sources including Government grants, property rental income, the sale of gold recovered from the Central Gawler Mill, and sale of non-core assets. On 31 May 2023, the company announced that roughly a third of the concentrates recently extracted from the mill have assayed a contained value of ~375oz Au (~AUD \$1.1m). When the balance of these materials are prepared and the parcel is processed during the second half of 2023, we expect significant additional cash inflows.

## VALUATION POST RESOURCE UPGRADE 50CPS ON RISK WEIGHTED BASIS

Our valuation range is A\$0.26/sh to A\$3.43/sh is huge and reflects unusual potential Barton has to potentially self-fund the project with minimal dilutionary capital raises. On peer comparison metrics, we expect Barton's share price will rise from the A\$0.26/sh level to A\$0.48/sh reflecting a modest increase in the expected Resource upgrade in December 2023.

The fundamental valuation of between A\$0.99/sh and A\$3.43/sh requires exploration success and the delivery of a Feasibility Study on Tunkillia. Using a 50% risk weighting our risked valuation of Barton is A\$0.50/sh being 50% of the bottom end of the range (refer Table 2 for details and page 4 has a simplified conceptual summary).

The per share valuations are very sensitive to the dilution required to fund the equity component of a 5Mtpa project at Tunkillia, and potential early cash flow from Tarcoola and/or tolling lift the per share valuation by three times, in addition to underwriting share price appreciation directly.

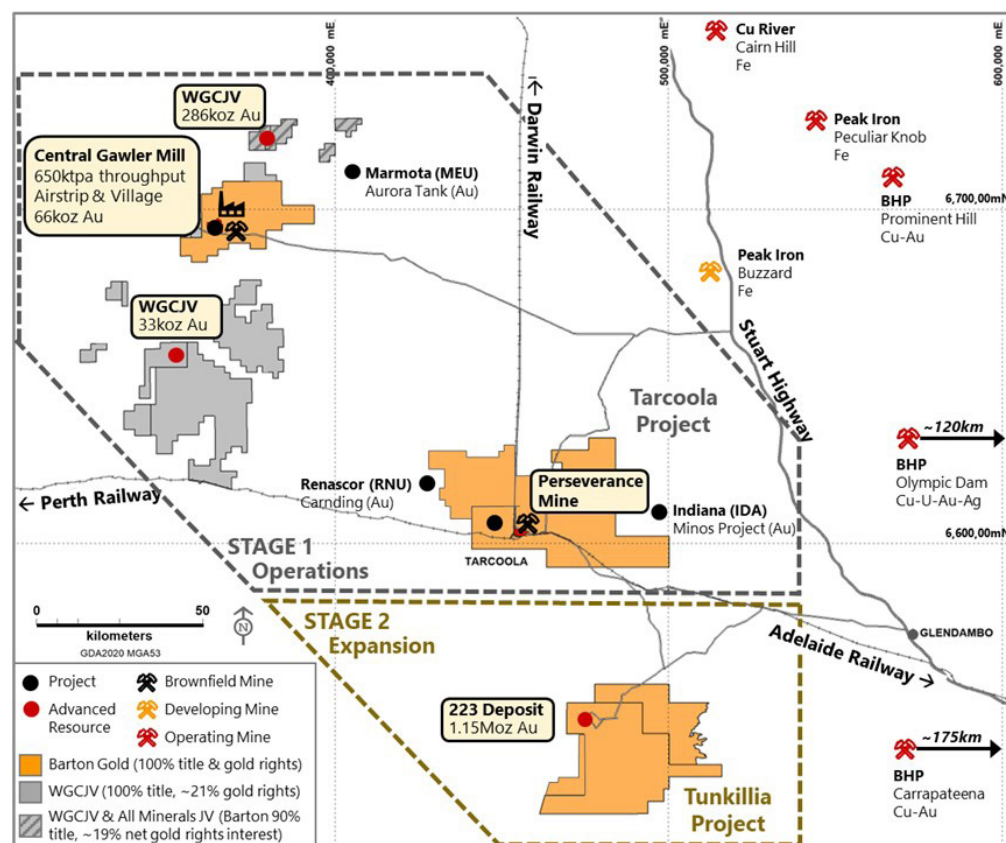
## INVESTMENT PROPOSITION

### Barton has a clear strategy

Barton gold has the ambition of being a 150Kozpa gold producer within a period of 5 years, operating a +2Moz Resources base with 8+ years' mine life. The plan is to get there in two stages:

- ◆ **Stage 1** is to prove up more ore at Tarcoola, which historically provided a +2.5g/t feed to Barton's 650ktpa Central Gawler Mill, then restart the plant processing Tarcoola (and/or third-party) feed to generate early cash flow.
- ◆ **Stage 2** is to prove up sufficient 0.9-1.05g/t ore at Tunkillia to support the construction of a 5Mtpa processing plant. 5Mtpa at 1g/t would deliver the 150kozpa and deliver the strategic objective. Supplementing Tunkillia feed with higher-grade Tarcoola feed could improve the project average grade and lift gold output above the 150kozpa.

Figure 1 Location map of Barton's infrastructure, major Resources and third party projects



Source: BGD presentation 22 March 2023

### Barton has cash to fund execution of strategy

Barton had A\$8.3M cash at 31 March 2023, and has cash inflow from Government grants, property rental income, the sale of gold recovered from the Central Gawler Mill, and sale of non-core assets. Recent gold concentrates recovered are likely to generate around A\$3M cash in the second half of 2023 based upon ~3,000 g/t Au assays recently reported by the company for the first ~1/3 of these materials (~375oz Au).

The company is running the exploration programs for both development Stages in parallel, with the intention of developing early cash flow from Stage 1 to assist in funding the expansion to Stage 2. As Tarcoola and Tunkillia will eventually function as a single large operation, Resource growth at either project strengthens the overall platform. Faster delineation of 'Stage 1 Resources' at Tarcoola would mean the ability to accelerate Stage 1 operations and bring forward early cash flows.

## Strategically significant infrastructure

Figure 2 Asset location



Source: BGD presentation 22 March 2023

Barton's 100% owned assets include:

- ◆ 650ktpa CIP process plant, mine village, and airstrip (Central Gawler Mill in Figure 2)
- ◆ Tarcoola ~40 person lodging to support mine operations
- ◆ Tunkillia camp to support a dedicated project team

Barton controls the only gold processing plant within 300km. There are a number of junior explorers with small deposits within trucking distance that are probably not large enough to support their own processing plant. Those deposits would generate positive cash flow for the deposit owner and Barton if processed at the Central Gawler processing plant.

If Barton also built a 5mtpa plant at Tunkillia, it would own the only two plants in a gold rich region, 200km apart from each other, similar to the distance from Kalgoorlie to Leonora in Western Australia.

### Size of prize: A\$430m today or A\$870M when in production

Building a 5mtpa gold plant at Tunkillia will probably require 8-10 years of Resources for the company to get the funding support of the equity market and banks. As the company builds Resources, the market is likely to re-price the company.

At a gold price of A\$2900/oz, the estimated value of a notional or hypothetical project at Tunkillia is A\$431M today or A\$870M once the pre-production capital is spent and the mine is in production. For valuation of Barton, any debt would have to be deducted, and existing shareholders would be diluted by the equity required to fund the project.

### Value per share depends on Tarcoola/Central Gawler cash generation

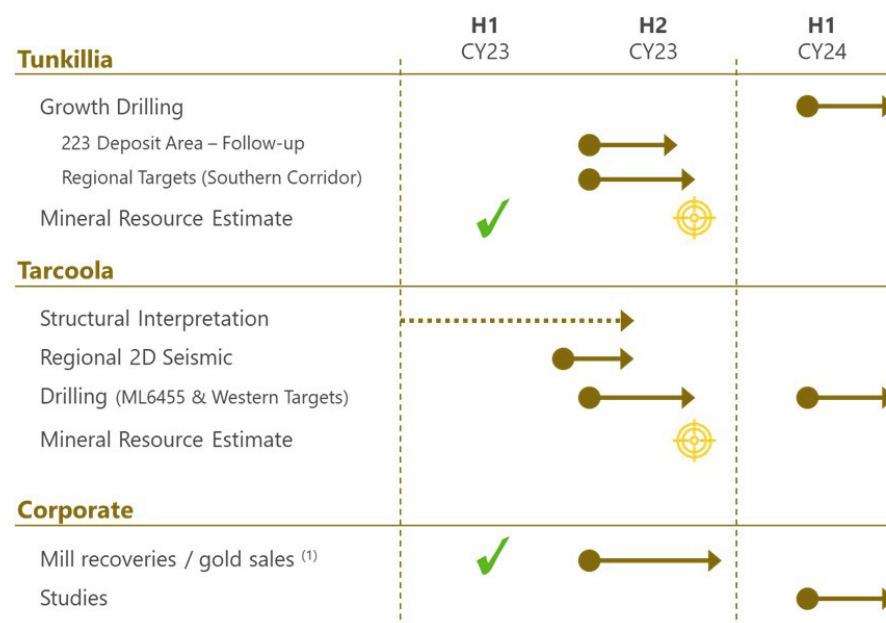
The value per share depends on the amount of share issuance required to fund the project, and this is where Phase 1 becomes very important. The development of Tunkillia is likely to take four years to complete and require A\$180M in equity at least for completing drilling, feasibility studies, and the equity to construct the project. If the Central Gawler processing plant can provide A\$50M pa in cash flow, the call on Barton shareholders could be minimal.

### Steps to restarting the Central Gawler processing plant

- ◆ The Central Gawler Mill is being worked on in 2023, with restart feasibility study activities expected during 2024 (Figure 3 and see discussion from page 13).
- ◆ The exploration at Tarcoola is underway. If Barton can establish 2 – 3 years of mill throughput (circa 1.2 – 2 million tonnes) at a decent grade, then restart is entirely within the company's control.
- ◆ If Barton elects to utilise the Central Gawler Mill for toll processing income, the timing will be determined by third parties. A restart at Tarcoola doesn't rule out toll processing because it is likely the plant can be expanded at modest cost (ie under A\$10M).

## Active newsflow to maintain market interest

Figure 3 Company forecast news flow



Source: BGD presentation 10 May 2023

The news flow in the figure above is the sign of a cashed-up company energetically getting on with the business of generating wealth for shareholders.

The Tarcoola drilling feeds into the Stage 1 project of restarting the Central Gawler plant.

The Tunkillia drilling feeds into the Stage 2 Expansion to build a large (5mtpa) processing plant on site. Any drill result that moves that project closer to commencement should have share price impact. Note that Barton has recently (April 2023) upgraded the Tunkillia Resource to 1.15Moz Au at a cost of A\$12/ounce, and is expecting to further update this Resource by the end of 2023.

However, there are some news items that are missing because the timing on delivery is not under Barton management control. These include:

- ◆ Commencement of potential toll processing at Gawler (if at all)
- ◆ Timing on discovery of Resources and conversion into Reserves

## VALUATION - MANY PATHWAYS TO A\$100M CAPITALISATION

Barton has a lot of options, and most of the actual value creation will come from the drill bit so it is at the mercy of exploration success, and investors in the share price today are buying into the company's ability to deliver. Most of this report is about the valuation of speculative outcomes and providing the data to allow investors to see the construction of those estimates and decide for themselves if they make sense.

Barton is trading at a market capitalisation of A\$40-50M. What can it do to make the share price rise, in the first instance to generate a market capitalisation of A\$100M, before going higher? Assuming a constant gold price, Barton would be worth A\$100M if any of the following occurred:

- ◆ Increases in Resource to 2.5Moz and the market prices those ounces at A\$40/oz
- ◆ Delivered of a Tarcoola discovery double the size of the historical Perseverance mine
- ◆ Delivery of a Preliminary Feasibility Study for a 5Mtpa Tunkillia project with IIR assumptions
- ◆ Signing a 10 year 650ktpa ore tolling deal with a margin of A\$30/t

Achieving any one of these in the current market is likely to be worth A\$100M. If two of the last three events occurred, Barton would be worth A\$200M.

Note that the initial value of A\$100M for the hypothetical Tunkillia project is at a real discount rate of 15% and its value would appreciate as it was de-risked and the discount rate reduced.



### Shareholder dilution is a significant valuation variable

While Barton can add value by proving up a large, long life project at Tunkillia, funding the pre-production capital can be dilutionary for today's shareholders. A notional project of 5Mtpa at 1.04g/t for 10 years would have an estimated pre-production capital requirement of around A\$385M (Table 5). Assuming 60% debt finding, some A\$150M in equity would be required to complete the construction financing. In addition, up to A\$30M would be required to drill out to Reserve standard and complete the Feasibility Study, so the total equity funding would be around A\$180M. The raises would be in stages but for simplicity, it is assumed to be one financing.

**Table 1 Impact of dilution - a necessary evil to be avoided if at all possible**

Issue Price A\$/sh	0.20	0.40	0.60
<b>Raise A\$M</b>	<b>New Shares Issued M</b>		
150	750	375	250
100	500	250	167
50	250	125	83
20	100	50	33
<b>Raise A\$M</b>	<b>Existing shareholders interest on final project</b>		
150	19%	32%	41%
100	26%	41%	51%
50	41%	58%	68%
20	64%	78%	84%

Source: IIR estimates based on 176M shares on issue, dilution =176M shares/(176M+new shares issued)

The table above shows how much of the company the current shareholders will own once equity funding has been completed. Shareholders can participate in issues, but at the cost of additional capital. The current shareholders interest in the company is dramatically higher if the issue price is higher and/or if less new equity is raised. At A\$0.60/sh, Barton would have a market capitalisation of just over A\$100M on 176M issued shares.

### Barton shareholders are on a staged journey

If Stage 1 exploration results in the discovery of a commercial deposit at Tarcoola, that mine should be a very low cost startup (i.e. we estimate less than A\$5M), and could be relatively quick if the discovery is contained within the existing mining lease.

If the equivalent to the 2017-2018 Perseverance mine was discovered at Tarcoola, the cash generation over three years at today's prices could be A\$140M pre tax, and if the cash flow started in 2024, it might infill almost all the equity capital required to build Tunkillia.

The impact can be clearly seen in the table below, where the value per share of the High Value case ranges from A\$1.01/sh with dilution to A\$3.43/sh with no dilution. The low valuation has no dilution because neither Tunkillia nor Tarcoola has progressed beyond the Preliminary/Scoping Study Stage.

**Table 2 Valuation Summary - Valuation range from A\$0.26/sh to an unrisks A\$3.43/sh**

	Source	Low	High
<b>On Peer Comparison</b>			
Valuation on Peer Comparison A\$M	Table 3	50.8	88.8
Valuation on Peer Comparison A\$/sh	Table 3	0.26	0.48
<b>Fundamental Valuation A\$M</b>			
Valuation of Tolling Business	Table 4	12	53
Tarcoola Discovery equal to one or two Perseverance repeat(s)	Table 7	60	120
Tunkillia Project	Table 6	101	431
Total	.	173	604
Value of share issuance (A\$180m at A\$0.30/sh)	.		180
Total	.	173	784
<b>Fundamental Valuation A\$/sh</b>			
A\$/sh on 176M shares	.	0.99	3.43
A\$/sh on 776M shares (i.e. +600m issued at A\$0.30/sh for A\$180M)	.		1.01

Source: IIR estimates as detailed in column 2

## VALUATION ON PEER COMPARISON

Barton is trading at an Enterprise Value of around A\$36/oz on Resources at Tunkillia only, and compared with the companies at a similar Enterprise Value in A\$M, and could be trading anywhere between A\$36/oz and A\$50/oz (refer Table 8).

The lower values generally attach to companies where momentum towards development appears to be lacking. Where companies are aggressively expanding Resources and progressing their projects, as in the case of Barton, the higher rating applies and we would expect that ongoing exploration success would be rewarded with an even higher rating (i.e. A\$50/oz).

The peer review is also useful to form a view of what will happen to the share price if Barton reports an increase in Resources later this year. For Tarcoola, we have taken the 2016 Reserve as a base and assumed a discovery might be between 50% and 300% of that base. Exploration is speculative both in terms of the size of any discovery and the time required to make it.

**Table 3 Impact of new Resources on the Barton Enterprise Value in the event of discoveries**

Peer Review Valuation	Low Moz	High Moz	Low EV A\$/oz	High A\$/oz	Low EV ASM	High EV ASM
Current Resource	1154	1154	36	50	41.5	57.7
Area 51 (see Table 18)	77	322	36	50	3.0	16.1
Total Tunkillia	1231	1476			44.3	73.8
Tarcoola (see Table 14)	40	200	36	50	1.0	10.0
Enterprise Value	1271	1676			45.8	83.8
Cash <sup>1</sup>					5.0	5.0
Company Valuation					50.8	88.8
Company Valuation A\$/sh					0.26	0.48

Source: IIR estimates Note 1 Cash at December 2023 assumes March Cash of A\$8M plus A\$4M income and A\$7m outflow to December 2023 leaving A\$5M

## VALUATION ON FUNDAMENTALS

### Tolling through the Central Gawler Processing Plant

Barton has published the results of a valuation assessment of the Central Gawler processing plant of A\$50M as is, and A\$100M to replace. The replacement value is effectively the value of the plant to any miner in the region that was thinking of building a new plant of the same 650Ktpa capacity.

We estimate that the plant would cost A\$37/t to operate (Tables 11 and 12). For valuation purposes, we have used a cost range of A\$35/t to A\$45/t when operating at 650ktpa. Administration would add around A\$5/t making the site cost total A\$40/t to A\$50/t.

Our analysis indicated that neighbouring gold miners would be indifferent at current prices between building a heap leach project and tolling through the Gawler plant for A\$65/t (Table 14).

While the decision is in the hands of third parties, there is definitely the possibility that tolling deals could be struck, particularly if the permitting of a heap leach was rejected by the South Australian Government on environmental grounds.

Assuming a margin of between A\$10/t and A\$30/t, at full 650ktpa capacity the plant would generate A\$6.5m to A\$19.5M pa in pre tax income for as long as the tolling arrangement lasted. If that was three to six years, the cash raised would be A\$19.5m to A\$78M pre tax.

**Table 4 Potential valuation of Central Gawler tolling business**

Processing Rate 650ktpa	Pre Tax		Post Tax	
	Low	High	Low	High
Three Year Contract Cash Flow A\$M	20	39	14	27
Six Year Contract Cash Flow A\$M	39	78	27	55
Three Year Contract Net Present Value A\$M	18	35	12	25
Six Year Contract Net Present Value A\$M	38	75	26	53

Source: IIR estimates

The Central Gawler plant could have a long life as a tolling business. Six years has been chosen as a maximum because that is equivalent to two clients each the size of Perseverance.



## Valuation of conceptual 5Mtpa project at Tunkillia

Table 5 Conceptual financial model assuming Reserve of 50Mt at 1.04g/t

	LOM	Jun-26	Jun-27	Jun-28	Jun-29	Jun-30
Waste Moved Kt	414000	0	0	41400	41400	41400
Strip Ratio	8.28	0.00	0.00	8.28	8.28	8.28
Ore Mined Kt	50000	0	0	5000	5000	5000
Grade Ave g/t -Table 20	1.04	1.04	1.04	1.04	1.04	1.04
Gold Contained Koz	1672	0	0	167	167	167
Ore Processed Kt	50000	0	0	5000	5000	5000
Grade Ave g/t	0.00	0.00	0.00	1.04	1.04	1.04
Gold Contained Koz	1672	0	0	167	167	167
Oxide	95%	95%	95%	95%	95%	95%
Fresh	93%	93%	93%	93%	93%	93%
Gold Recovered Koz	1555	0	0	155	155	155
Capex Pre Prodn A\$M -Table 21	415	85	300	0	0	0
Capex Sustaining A\$M	80	0	0	8	8	8
Total A\$M	495	85	300	8	8	8
Note: Pre-production capex includes A\$30M for Feasibility Study						
Mining Cost A\$/t moved	3.00	3.00	3.00	3.00	3.00	3.00
Grade Control A\$/t ore mined	6.00	6.00	6.00	6.00	6.00	6.00
Mining -Table 24	33.84	0.00	0.00	33.84	33.84	33.84
Processing -Table 24	16.00	16.00	16.00	16.00	16.00	16.00
Admin -Table 24	2.00	2.00	2.00	2.00	2.00	2.00
Mining Waste A\$M	1242	0	0	124	124	124
Mining Ore A\$M	450	0	0	45	45	45
Mining Total A\$M	1692	0	0	169	169	169
Processing Total	800	0	0	80	80	80
Admin	100	0	0	10	10	10
C1 Total	2592	0	0	259	259	259
AISC A\$/oz	1898	0	0	1898	1898	1898
Tax Rate	0%	30%	30%	30%	30%	30%
Inflation	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Gold Sales Koz	1555	0	0	155	155	155
Gold Price US\$/oz	0	1950	1950	1950	1950	1950
AUDUSD	0.00	0.67	0.67	0.67	0.67	0.67
Gold Price A\$/oz	0	2910	2910	2910	2910	2910
Revenue A\$M	4526	0	0	453	453	453
Royalties	272	0	0	27	27	27
Refining Costs	7.8	0.0	0.0	0.8	0.8	0.8
Revenue	4526	0	0	453	453	453
Cost	-2871	0	0	-287	-287	-287
EBITDA	1654	0	0	165	165	165
D&A	-495	0	0	-50	-50	-50
EBIT	1159	0	0	116	116	116
Tax	-348	0	0	-35	-35	-35
NPAT	812	0	0	81	81	81
Sustaining Capex A\$M	80	0	0	8	8	8
Pre Prodn Capex A\$M	415	85	300	0	0	0
Free Cash Pre tax	1159	-85	-300	157	157	157
Free Cash Flow After Tax	812	-85	-300	123	123	123

Source: IIR estimates discussed later in this report on pages 27-30

The financial model in the table above is conceptual, and provides a platform that can be used to discuss how a valuation of Barton Gold can be arrived at, but is not a valuation because the company has yet to discover sufficient ounces, has yet to put a mine plan around the Resources to see where the head grade lands, and has yet to estimate capital and operating costs for a project in South Australia, which may be different from Western Australia, for better or worse.

## Sensitivities

**Table 6 Sensitivities to key model parameter changes**

Discount Rate	Change	15.0%	10.0%	5.0%
Ore	+5Mt	11.69	24.34	51.27
Grade	+0.1g/t	82.0	120.0	181.6
Capital Cost	+AM\$50	-24.3	-27.9	-31.6
Operating Cost	+,A\$1/t ore	-10.0	-14.7	-22.2
Gold Price	+A\$50/oz	14.7	21.5	32.5
NPV A\$M		100.7	220.4	431.3

Source: IIR estimates generated by the model in Table 5, NPV = Net Present Value or the value of each years cash flow discounted back to June 2023 using the discount rates shown.

## Choice of discount rates depends on how de-risked the project is

The Net Present Values generated by the model depend on the discount rate used. The model is in real terms which means that it assumes zero inflation in operating costs and gold prices over the life of the operation. The assumption implicit in this sort of modelling is that the gold price will rise to match inflation over the life of the mine. This means that the discount rate is a real discount rate, so in a 7% inflation environment, a 5% real rate is equivalent to a 12.3% nominal rate which would be applied if costs and prices were inflated.

Real price analysis is used because historically the stock market appears to value gold companies in real terms, assuming the spot gold price of the day, and using a 15% discount rate once a Preliminary Feasibility Study is published, at 10% once the Definitive Feasibility is published and 5% once the operation is in production. Once the company is in production, the pre-production capital has been spent, and the value of the project on our estimates is around A\$900M, less related debt funding.

- ◆ At 15% real discount rate the model Net Present value at June 2023 is A\$101M
- ◆ At 10% real discount rate the model Net Present value at June 2023 is A\$220M
- ◆ At 5% real discount rate the model Net Present value at June 2023 is A\$431M

The valuation sensitives to a number of key assumptions is detailed in Table 6, and is particularly sensitive to gold grade.

Note that the sensitivities vary with discount rate. Using grade as an example, a 0.125g/t decrease in grade at 15% discount reduces the NPV to zero, but at 5% discount rate, the value is reduced by about 50%.

## Valuation of conceptual operation at Tarcoola

At this point there is nothing to value, given the stage of exploration. There is the value on the option that Barton will discover another Perseverance mine. Any discovery would have to be processed but could be through an expanded Gawler plant or in the longer term through Tunkillia, which would be closer and lower cost.

The start up cost for Tarcoola would be a few million dollars at most, given the existing infrastructure.

**Table 7 Valuation of a new project at Tarcoola with the same metrics and WPG's Perseverance project in 2017-2018**

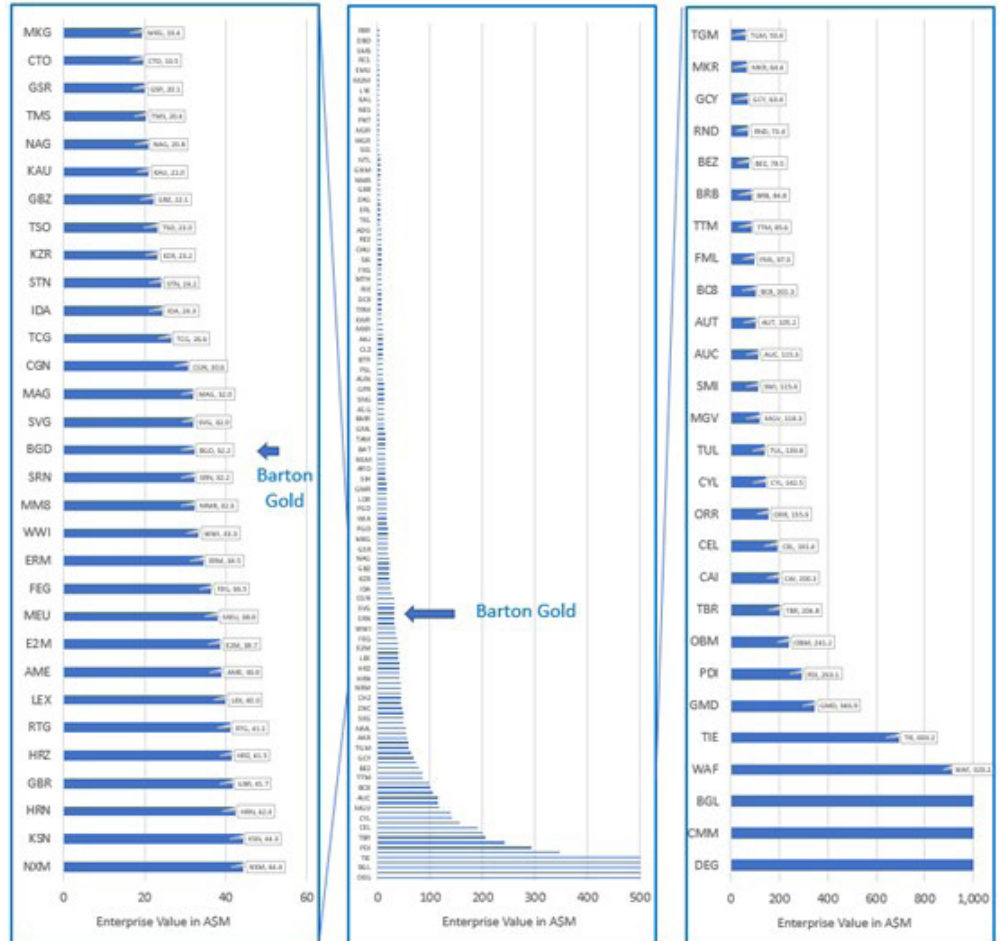
	koz	A\$/oz	A\$M
Revenue	67.5	2900	196
Life of Mine Operating Costs			56
Cash Flow Pre Tax			140
Discounted Cash Flow 15% 3 years out post tax			60

Source: Estimated from data in Table 14

## PEER COMPARISONS

There are 172 companies listed on the Australian Stock Exchange that report 5B cash flow statements and are exploring for or developing a gold deposit. At the share prices for all these companies on 31 March 2023, Barton was ranked at 98 at its 31 March 2023 share price of A\$0.23/sh. Investors reading this report will probably be aware of many of the stocks shown below, and may even own some, so they would be in a position to compare the companies they are familiar with to Barton and decide for themselves where Barton should trade.

**Figure 4 Where does Barton belong in the universe of Australian gold project developers?**



Source: Austex Share prices and Enterprise Values at 31 March 2023

Of the 172 mining companies that lodge quarterly 5B cash flow reports and are exploring for gold, the 50 stocks with higher Enterprise Values and 50 with lower EVs have been reviewed. Stocks which have significant activities in non-gold commodities, and companies with no major gold assets in Australia have been eliminated leaving Barton and 25 peers in the table below. The elimination process may have omitted some worthy comparisons, so apologies if your favourite gold stock is missing, but the comparison table below is still comprehensive and relatively unbiased.

The Enterprise Values per ounce range from A\$12/ounce to A\$179/ounce. The top three companies (MGV, STK, and AUC) have reported Preliminary Feasibility Studies or Scoping Studies, Musgrave (MGV) has a very high grade (an open pit head grade of 4.3g/t) and is the subject of a bid from Westgold.

Strickland and Ausgold are representative of where Barton might trade once it reported a Preliminary Feasibility Study. For that study to take place Barton would have to discover more ounces of gold.

Barton is trading at A\$25/oz on its global Resource of 1.3Moz or A\$36/ounce on Tunkillia Resources only. A\$36/oz is in the middle of the pack overall. Using only Tunkillia Resources has been done to avoid confusion in the valuation table when additional ounces are being added from discoveries.

Astral (A\$42/oz) and Breaker (A\$47/oz) are examples of where Barton could be trading at present. Many of the companies trading at higher and lower multiples have compiled their resources from a number of small deposits. There are also issues of comparability of Resources.

For example, Alto's unconstrained Resource at 1046kt is similar to that of Barton, but it comprises a number of gold camps, the largest of which is 291koz while Barton has a single baseload resource of over 1Moz. Also, Barton has reported a constrained Resource i.e. only the material inside a mining pit shell. The constrained Alto Resource is 832koz and that means Alto is trading on A\$45/oz, and Barton probably should trade at a premium to Alto given its Resource is almost entirely in one deposit.

**Table 8 Barton's current peers – Barton Resource in this table is conservative being Tunkilla only (1.149Moz).**

		EV ASM	Interest	Mt	Resources		EV A\$/oz Resource
					gt	Koz	
MGV	Musgrave Minerals	166	100%	12.3	2.30	927	179
STK	Strickland Metals	76	100%	11.7	1.60	603	125
AUC	Ausgold	107	100%	32.0	1.25	1280	84
GBR	Great Boulder Gold	31	75%	6.1	2.60	518	79
GSR	Greenstone Res	20	100%	4.2	2.50	332	61
SVG	Savanah Res	28	100%	9.3	1.63	486	58
BRB	Breaker Resources	80	100%	31.8	1.66	1701	47
AME	Alto Metals Constrained Resource	38	100%	17.5	1.50	832	45
AAR	Astral Resources	48	100%	32.9	1.10	1150	42
FML	Focus Minerals	103	100%	42.0	1.90	2600	40
LEX	Lefroy Exploration	30	100%	44.9	0.57	819	37
BC8	Black Cat Syndicate	85	100%	26.3	2.80	2340	36
BGD	Barton Gold	32	100%	38.0	0.94	1149	36
AME	Alto Metals Unconstrained	38	100%	23.5	1.40	1046	36
NML	Navarre Minerals	34	100%	17.1	1.77	971	35
RXL	Rox Resources	77	70%	27.9	3.60	3200	34
KIN	Kin Mines	45	100%	34.1	1.30	1374	33
MEK	Meeka Gold	38	100%	12.7	3.00	1213	31
GBZ	GBM Res	16	100%	15.9	1.00	515	31
SMI	Santana Minerals	84	100%	39.7	2.30	2909	29
WA8	Warriedar Resources	50	100%	34.7	1.75	1959	25
HRZ	Horizon Minerals	28	100%	22.6	1.71	1240	23
TSO	Tesoro Resources	23	81%	33.7	1.18	1282	22
HRN	Horizon Gold	42	100%	44.5	1.50	2140	20
STN	Saturn Metals	26	100%	76.0	0.60	1469	18
MKG	Mako Gold	13	100%	22.5	1.20	868	15
KZR	Kalamazoo Resources	17	100%	16.0	2.80	1436	12

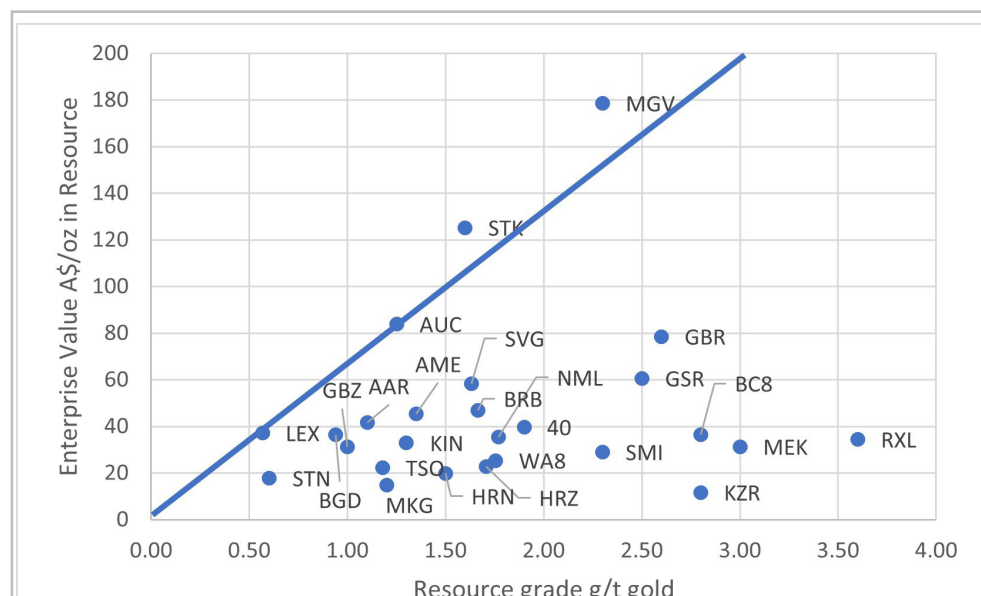
Source: Share prices at 6 June 2023 except for BRB which is last trade on 1 June 2023 before delisting. Company reports to 5 June 2023

A driver of the difference in Enterprise Value per ounce may be the Resource grade. Investors need to be familiar with each company's specific projects which is hard to capture in a single table. For example, Black Cat's Resources are largely underground, and not truly comparable with those of Barton.

The figure below shows the relationship between Resource grade in grams per tonne of gold and the Enterprise Value in A\$/oz. The blue straight line is like an efficient frontier. The slope of the line is such that for each 1g/t rise in grade, the ounces are worth A\$65/oz more. That amount is actually the after tax revenue from a gram of gold and theoretically all the stocks should be on that line if their All In Sustaining Costs in A\$/t ore were the same. The vertical gap between the current enterprise value of each stock and the line probably reflects a combination of perceived operating cost, likelihood the project will ever get developed at current gold prices, differences in expected conversion from Resources to Reserves, and market inefficiency. While inefficiency might be a factor the dominant one is more likely to be perceived costs.

For example, in the case of Kalamazoo, the Resource has become smaller since its acquisition from Northern Star in 2020, and the company is starting to focus on lithium exploration.

**Figure 5 Enterprise Value in A\$/ounce of Resource vs grade**



Source: Company reports see Appendix for references

### What this means for Barton

- ◆ The company intends to issue a Resource update for Tunkillia at the end of 2023 and possibly one for Tarcoola subject to near term drilling. If nothing else changes, any additional ounces should increase Barton's Enterprise value by A\$36/ounce.
- ◆ The Tunkillia Resource addition increases the chance that the project will get built, so that should result an increase the rating from A\$36/oz to between A\$50/oz and A\$80/oz.
- ◆ If drilling at Tarcoola adds higher grade ounces to the Resource, lifting the average grade, that should also result in an additional re-rating.
- ◆ Once Barton publishes a Preliminary Feasibility Study (PFS), a further re-rating would be expected, but at that point, it will cease to be priced on Resource multiples, and would be valued according to the data in the PFS.

Some of these companies own a processing facility, but generally the facility is close to a depleted deposit, and not close to the bulk of their Resources. In that respect, they are like Barton in that they will have to build a new plant to monetise the bulk of their Resource base.

## FINANCIAL POSITION

At 31 March 2023, Barton had A\$8.3M in cash on hand.

In the half to 31 December 2022, the company spent A\$4.2M on exploration and A\$1.9M on corporate overheads.

However, the company is also working hard to generate income from its asset base, as shown in the table below.

**Table 9 Miscellaneous income continues to be a material addition to cash reserves**

Miscellaneous Income A\$M		
Source	FY22	9mths to Mar 23
Gold Concentrate	1.00	0.49
Profit on Sale of Assets	0.81	0.69
Government Grant	0.60	1.44
Insurance Recoveries	0.03	
Camp Accommodation Rental		0.78
<b>Total</b>	<b>2.43</b>	<b>3.40</b>

Source: 2022 Annual Report, December 2022 result release, March 2023 5B cash flow.

We expect Barton will continue to generate miscellaneous income that will slow the burn of its cash reserves, with likely sources of cash including:

- ◆ **Stockpile processing** - Barton gold has some 230,000 tonnes of stockpiles at the Tarcoola project grading 1.3 g/t Au, for a total of 9,600 contained ounces gold. This could in theory be processed and sold as a concentrate to generate additional capital.
- ◆ **Gold from cleaning out the Gawler Plant circuit** – 554oz of gold have been sold so far raising A\$1,490,000 (30 June 2022 and 28 March 2023). More than ten tonnes of gold bearing materials were recovered in December 2022. 3.8 tonnes have been cleaned and prepared for sale, with the materials assayed at ~3,000 g/t Au grade indicating contained gold of 375Koz worth A\$1.1m at current prices. If the rest of the 10 tonnes runs at the same grade, the total income from this source during the second half of 2023 would be around \$2-3M.
- ◆ **Government grants** A\$0.85M in the March quarter
- ◆ **Further sales of non-core assets**

## DESCRIPTION OF ASSETS

### RESOURCES

**Table 10 Barton's regional Resources – Tarcoola, Challenger and the WGC JV are within haul distance to Central Gawler Mill**

	Indicated			Inferred			Total		
	Mt	g/t Au	Koz	Mt	g/t Au	Koz	Mt	g/t Au	Koz
<b>Tunkillia (100%)</b>									
Oxide	0.30	1.19	11	0.3	1.00	8	0.50	1.10	19
Transition	3.7	1.05	124	2.9	0.87	82	6.6	0.97	205
Fresh	18.0	0.92	535	12.8	0.96	394	30.9	0.94	929
<b>Subtotal</b>	<b>22.0</b>	<b>0.95</b>	<b>670</b>	<b>16.0</b>	<b>0.94</b>	<b>484</b>	<b>38.0</b>	<b>0.94</b>	<b>1154</b>
<b>Tarcoola (100%)</b>									
Perseverance Pit	0.1	1.70	4	0.1	1.10	2	0.1	1.40	6
Oxide Stockpile				0.2	1.20	7	0.2	1.20	7
Fresh Ore Stockpile				0.6	1.40	3	0.6	1.40	3
<b>Subtotal</b>	<b>0.1</b>	<b>1.70</b>	<b>4</b>	<b>0.3</b>	<b>1.20</b>	<b>12</b>	<b>0.4</b>	<b>1.30</b>	<b>16</b>
<b>Challenger (100%)</b>									
Above 215 RL Fault				0.3	4.10	43	0.3	4.10	43
Deeps <90m RL				0.2	3.50	23	0.2	3.50	23
<b>Subtotal</b>				<b>0.5</b>	<b>3.90</b>	<b>66</b>	<b>0.5</b>	<b>3.90</b>	<b>66</b>
<b>WGC JV (20-22%)</b>									
Golf Bore	0.6	1.00	18	3.2	1.00	100	3.8	1.00	119
Campfire Bore				2.8	1.20	109	2.8	1.20	109
Greenwood	0.1	1.40	7	0.8	1.60	39	0.9	1.60	46
Monsoon				0.6	0.80	17	0.6	0.80	17
Typhoon				0.3	1.90	16	0.3	1.90	16
Mainwood				0.4	1.10	12	0.4	1.10	12
<b>Subtotal</b>	<b>0.7</b>	<b>1.10</b>	<b>25</b>	<b>8.0</b>	<b>1.10</b>	<b>294</b>	<b>8.7</b>	<b>1.10</b>	<b>319</b>
<b>Total Attributable</b>	<b>22.2</b>	<b>1.00</b>	<b>679</b>	<b>18</b>	<b>1.00</b>	<b>618</b>	<b>40.6</b>	<b>1.00</b>	<b>1297</b>

Source: BGD release 26 April 2023

The Challenger Underground is located near to the Central Gawler processing plant but does not feature in the company's ambitions at this time because of the high mining cost and a preference for pursuing open pit mineralisation as a lower-risk, lower-cost investment in exploration, development and operations. There is no exploration budgeted.

### CENTRAL GAWLER PROCESSING PLANT

The Central Gawler processing plant is a conventional carbon in pulp ("CIP") gold processing facility. The following commentary has been drawn from the Scheme of Arrangement Booklet for the merger of Kingsgate (ASX:KCN) and Dominion Mining in 2010.



The plant comprises a jaw crusher supplemented by a cone crusher, two ball mills in series, a gravity circuit to recover coarse gold, cyanidation leaching, adsorption circuit and conventional elution and electrowinning to produce gold bullion.

Tailings are thickened to 60% solids and pumped to the tailing storage facility. In this manner, considerable quantities of water are returned to the plant, thus minimising cyanide consumption.

When Dominion owned the operation, the processing plant operations and maintenance service contractor, Belminco Ltd, employs 40 people with professional staff employed directly by Dominion.

A diesel power station, of approximately 5 MW capacity, supplies power to the treatment plant, underground mine and village. Diesel fuel is a major site cost amounting to A\$2.9M in 2010 and contributing A\$5.35/t to treatment costs.

A second diesel power station to supply the underground operation was commissioned during 2010.

An on-site laboratory assays grade control and mill samples.

Water is supplied from a borefield located approximately 3 km west of Challenger with a reverse osmosis plant supplying potable water for elution and general usage.

The plant has undergone a series of upgrades from the original 250,000 tpa when first commissioned to 630,000 tpa. Barton believe its capacity is now 650,000 tpa. The plant has achieved the nominal 75 tph after the installation of the second ball mill.

**Figure 6 Central Gawler 650ktpa gold processing plant**



Source: BGD release 1 June 2023

IIR estimates that the operating cost of this mill at 650ktpa would be around A\$37/t comprising A\$15/t of variable costs and A\$15M pa of fixed costs (Table 5). This estimate is in line with the separate estimate in Table 12. If the plant were to be expanded to 1mtpa, the overall cost would fall to A\$30/t.

**Table 11 Estimated operating cost of the Gawler plant excluding administration and tailings dam construction**

Capacity ktpa	680	1000
Variable Cost A\$/t	15	15
Fixed Cost A\$M pa	15	15
Total Cost A\$/t	37	30

Source: IIR estimates based on WPG Tarcoola feasibility study 1 September 2016 and comparisons with reported actual and feasibility studies from other companies, and is consistent with the cost workup in Table 12

The expansion to 1mtpa is probably contingent on the demands for toll processing of ore from other miners. Tarcoola is likely to be processed through the Tunkillia plant once it is constructed because it will be closer to Tarcoola and will have a processing cost probably half that of the Central Gawler plant.

**Table 12 Estimate of current Gawler operating costs based on 2010 reported costs**

	2010 AS/t milled	Est 2023 AS/t milled	Change
Stockpile to Crusher Loader Costs	1.59	1.75	10%
Crushing	0.94	1.03	10%
Milling	3.33	3.66	10%
Leaching Cyanide Reagents	2.29	2.98	30%
Leaching Other	1.97	2.17	10%
Gold Room	0.53	0.58	10%
Tailings Storage	0.15	0.17	10%
Laboratory	0.42	0.46	10%
Maintenance	0.27	0.30	10%
Water Supply	0.87	0.96	10%
Power Supply Diesel	5.35	7.87	47%
Power Supply Other	1.27	1.40	10%
Indirect Cost Labour	9.19	12.87	40%
Indirect Costs Other	1.14	1.25	10%
<b>Total</b>	<b>29.31</b>	<b>37.44</b>	<b>28%</b>

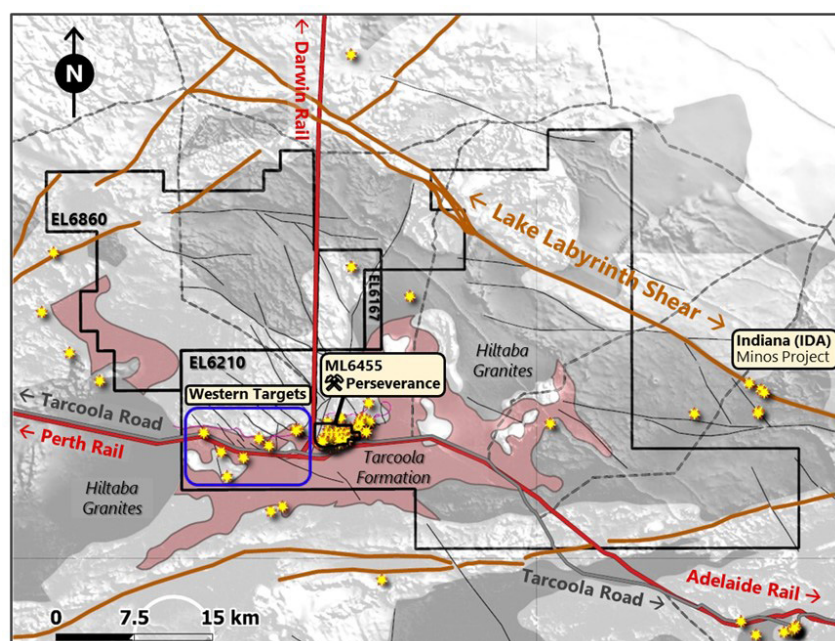
Source: 2010 costs from Kingsgate/Dominion merger booklet 2010, Diesel price increase from the Australian Consumer Competition Commission, labour average weekly earnings increase from Australian Bureau of Statistics, IIR estimates

## TARCOOLA EXPLORATION

### Location and tenure

The Tarcoola ML Project area lies within Mineral Lease (ML) 6455. ML6455 covers an area of 725.35 ha and is situated completely within Exploration Licence (EL) 6210 which is owned by Tarcoola 2 Pty Ltd a wholly owned subsidiary of Barton Gold Pty Ltd.

**Figure 7 Regional geology Barton tenements and location of Indiana (ASX:IDA) Minos project**



Source: BGD presentation 1 May 2023

The Mining Lease is covered by a registered Native Title determination held by the Antakininja Matu-Yankunytjatjara Aboriginal Corporation (AMYAC). Tarcoola 2 has a deed of agreement with AMYAC and all work programs have been approved by AMYAC. Adjacent to the Perseverance Deposit and the Deliverance/Eclipse Target areas are registered State Heritage Places.

### Regional geology

The Tarcoola Project covers a portion of the north-western Gawler Craton centred over the historic Tarcoola goldfield, where Archaean and Proterozoic rocks form the basement to an extensive cover of Phanerozoic sediments. The Archaean basement has been extensively deformed, whereas the Proterozoic rocks have been weakly to moderately deformed.

At Perseverance (current Tarcoola open pit mine), gold mineralisation is hosted within sedimentary rocks of the Tarcoola Formation and granite, both of Proterozoic age. The granite is variably in fault contact with or unconformably overlain by the sediments, which consists of conglomerate, limestone, sandstone, siltstones, and shale.

A suite of later intrusions (Lady Jane Diorite) cut both the sedimentary rocks and the granite. Mafic high level intrusives associated with the 1590Ma Hiltaba Magmatic Event are considered to control the spatial setting of both gold and base metal mineralisation.

Three deformation events have been recognised in the area. D1 is characterised by open folding and NNW-directed thrusting, responsible for the southerly dip of the sedimentary package at Perseverance.

Steeply dipping NW and NE trending brittle faults developed during D2. These structures host and control the gold mineralisation in the Tarcoola Ridge area.

The third deformation event (D3) is represented by the late E-W trending barren quartz veins.

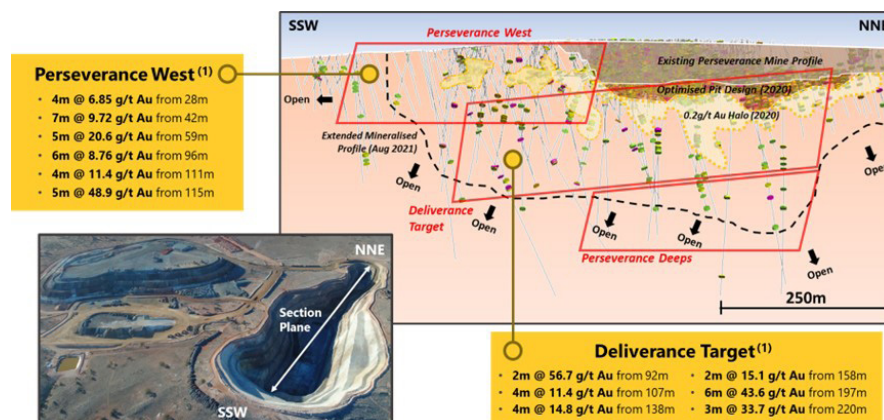
Gold has locally been remobilised and enriched in the weathering profile. The base of complete oxidation occurs typically 10-40m below surface, and the base of partial oxidation occurs at a depth of ~20-60m.

Within the primary zone, sericite-quartz-pyrite alteration zones are spatially associated with the mineralisation and overprint earlier hematite-magnetite alteration. An outer halo of chlorite (+/leucocoxene and pyrite) is developed. Pyrite, galena, and sphalerite are the main associated sulphide minerals, with subordinate amounts of chalcopyrite, bornite, and/or arsenopyrite noted. Veins can be discrete or form wider stockwork zones and are surrounded by broader quartz-sericite alteration envelopes which can host lower grade background halos of mineralisation. Dispersed supergene mineralisation in the oxide zone can be largely detached from veining.

The ore produced from the Perseverance Pit was free milling with a recovery of 94-95%.

### Primary drilling target is the extensions to the Perseverance Open Pit

Figure 8 Perseverance Pit extensions

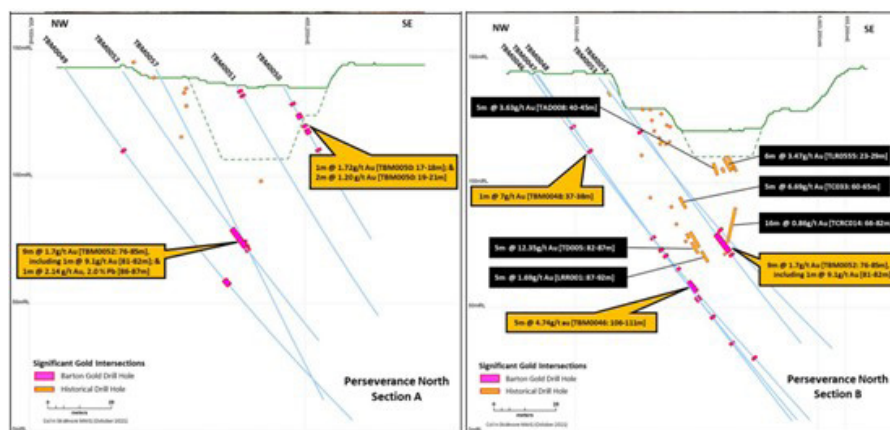


Source: BGD presentation 10 May 2023

The average intercept weighted grade of the drill intersections is reported in releases dated 5 September 2022 and 21 October 2021 is 1.65g/t with intercepts ranging from 5m to 25m. The average grade of the first 21 months of production before WPG stopped reporting was 2.51g/t (see Table 13), suggesting the likely mine grade for any additional tonnes from around the Perseverance pit will be between 1.65g/t and 2.5g/t.



Figure 9 Cross Sections showing mineralisation extending down dip and in the pit walls



Source BGD release 20 October 2021

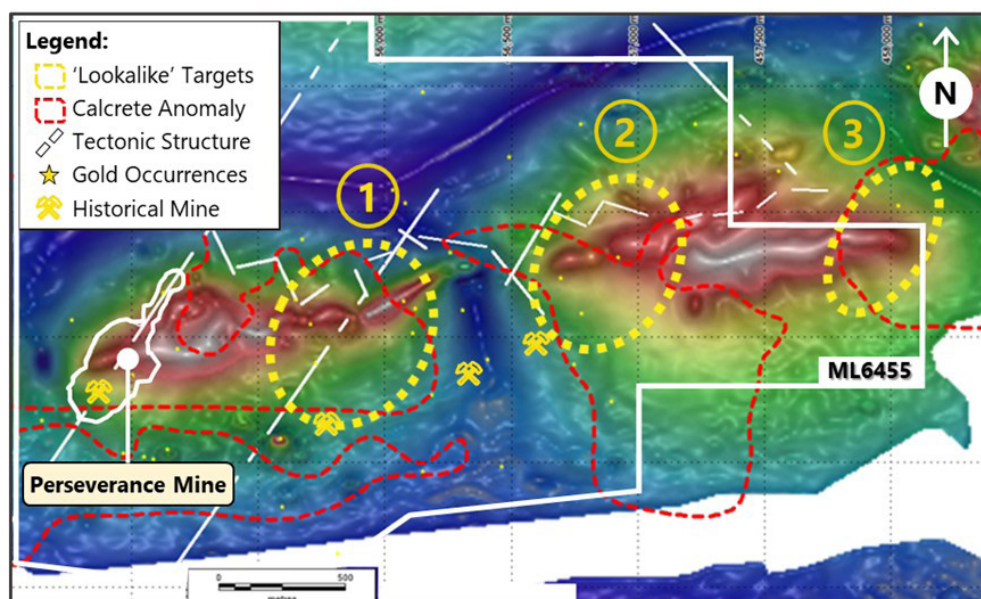
Table 13 Tarcoola production in first 21 months of operating averaged 2.51g/t

Tarcoola Production	PFS Volumes	Yr to Jun 2017	9mth to Mar 2018	21 Months
Waste Mined kBCM	7547	1249	1421	2669
Ore Mined kt	712	120	243	364
Mined Grade g/t	3.1	2.32	2.60	2.51
Contained Gold koz	71.0	9.0	20.3	29.3
Ore Hauled to Process Plant kt		69	134	204

Source: WPG Resources quarterly activities statements

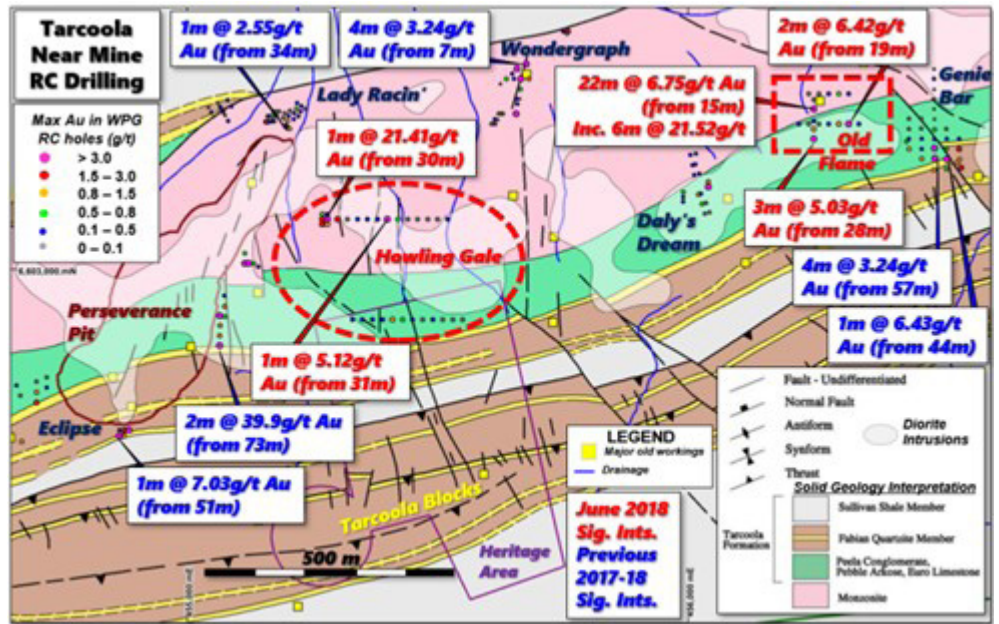
Step out targets were being successfully drilled by previous operator

Figure 10 Along Strike from Perseverance Pit and still in the approved mining lease



Source: BGD presentation 10 May 2023

Figure 11 Historical drilling results from The No 1 and No 2 target areas in Figure 10 above

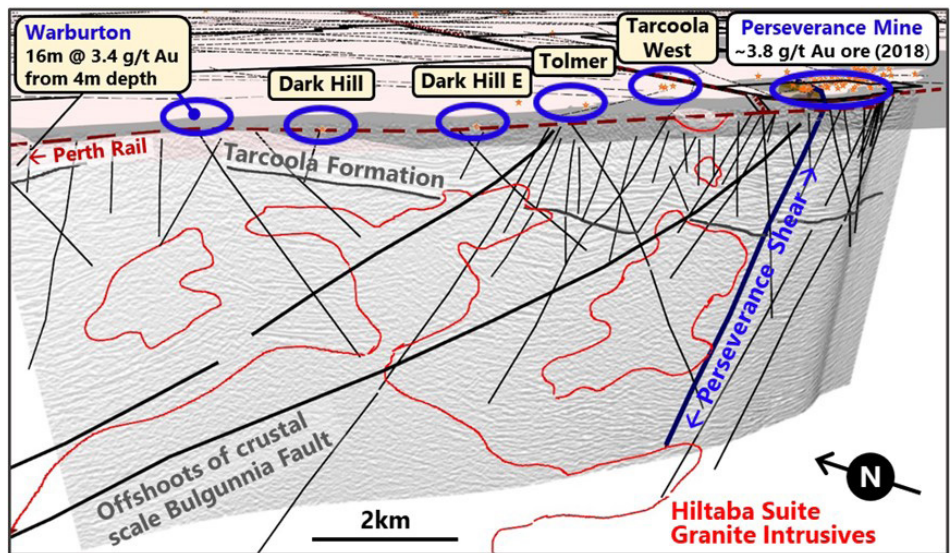


Source: WPG release 18 July 2018

The previous operator, WPG Resources, was reporting very encouraging results from drilling just prior to appointment of voluntary administrators on 30 July 2018. The highlights are shown on the figure above released by WPG on 18 July 2018.

**The Western Target add additional potential**

Figure 12 Along structure from Perseverance Pit to West (Western Targets in Fig XX)



Source: BGD presentation 10 May 2023

In the schedule in Figure 3, Barton plans to drill ML6455 and some of its Western Targets in the second half of 2023. Barton has used HiSeis to reprocess 2D seismic to produce the map of geological structures in the figure above. The specific targets shown have been identified by surface geochemistry and limited drilling.

**Tarcoola economics in the event of a discovery**

Table 14 below summarises the 2016 Feasibility Study by WPG Resources prior to starting production at Tarcoola. The actual results from this operation are merged with the costs from the underground Challenger mine, so are not visible in the reported actual results. The table includes the 2015 Feasibility Study which planned to heap leach the same deposit, providing a very useful comparison of the two development pathways for the asset.

If Tarcoola were to send its ore to a new Tunkillia processing plant, the processing and haulage costs would probably be as much as A\$30/t lower than the numbers in the table below, and a couple of dollars higher if the ore went to the Central Gawler plant given cost inflation since 2016.

Given the capital was spent to start operations in 2016, the capital cost of a mining restart would be equal to or lower than the numbers in the table.

Mining costs would depend on the detail of the mine, depending on whether it was underground or a higher strip ratio open pit.

While these costs are seven to eight years old, they highlight the advantages that Barton can offer third parties by offering tolling through the Central Gawler plant compared to heap leaching on site.

In this case, the capital saving was A\$12.12M, and by processing through Gawler, 7,500 ounces of additional gold was recovered, worth A\$21.8M at A\$2900/oz.

If the total benefit of A\$33.9M was divided by the tonnes tolled (712Kt), there would be a benefit of A\$47.6/tonne. The miner would pay for all the operating costs except for the Processing, which would be replaced by a tolling fee and would break even at A\$47.6/tonne plus A\$17.57/t (i.e. the leaching processing costs) = A\$65.17/t.

**Table 14 Tarcoola/Perseverance Mine DFS metrics for processing through Central Gawler plant vs DFS for heap leach at site**

	2016 Feasibility - Haul to Central Gawler Plant	2015 Feasibility - Heap Leach on Site	Benefit of Central Gawler
Open Pit Ore mined kt	712	900	
Waste Moved kt	7547	6840	
Ave Mining Rate ktpa	350	350	
Grade Mined g/t	3.1	2.6	
Contained Gold koz	71	74	
Gold Recovery	95%	81%	
Recovered Gold	67.5	59.9	7.5
Project Life yrs	3.5	2.6	
<b>Capital Costs A\$M</b>			
Owners Costs	0.46	0.50	
Accommodation	0.64	1.88	
Haul Road upgrade	0.54		
Water Supply	0.05	1.14	
Gawler Plant changes	0.75		
Leach Pads		4.63	
Process Plant		6.31	
Airstrip		0.91	
Mining Mobilisation	0.49	0.40	
Environmental Bonds	1.07	0.95	
Total	3.99	16.72	12.73
<b>Operating Costs</b>			
Mining A\$/t moved	2.65	3.17	
Ore Haulage A\$/t ore	18.20		
Marginal Processing A\$/t milled	17.57	24.43	
G&A A\$/t milled	12.08	9.80	
Total Cash Costs A\$/t milled	78.63	61.53	
Life of Mine Cash Costs A\$M	55.98	55.38	-0.61
Life of Mine Total Cost A\$M	59.97	72.10	12.12

Source: WPG Resources ASX releases 1 September 2016 and 25 September 2015 (Available on Hot Copper). Split between haulage and processing costs estimated by IIR. Processing costs are stated by WPG as the marginal cost is exclusive of fixed processing costs which were born by the Challenger underground mine.

## TOLLING OPPORTUNITIES AND ECONOMICS

The ability of Barton to execute the opportunity to toll third party ore (if it chose to pursue this in addition to, or as an alternative to, processing its own Tarcoola ore) depends on the third parties being ready to mine and being willing to deal. Barton is not in control of their timelines.

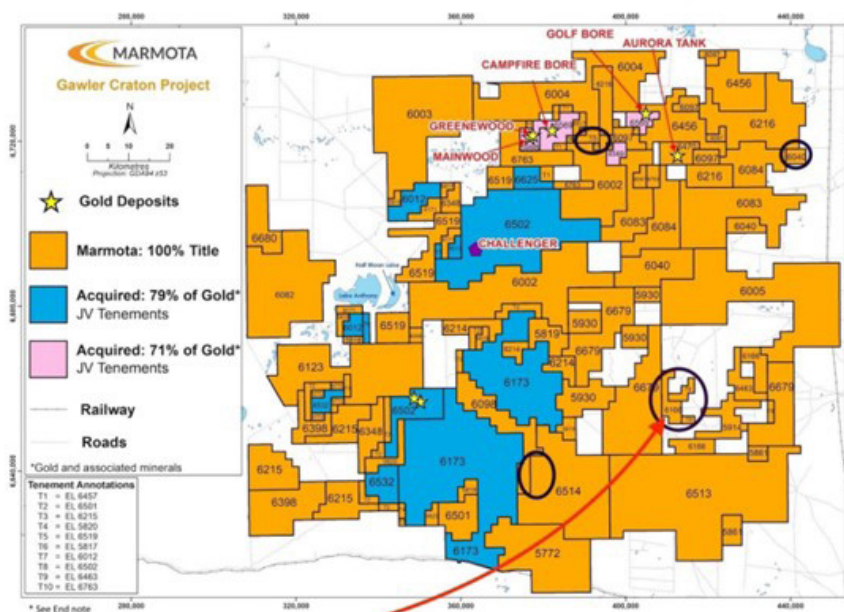


One of the issues is that very few of the more promising deposits have any Resources and there are no published Reserves. One of the reasons for the lack of Resources may be that Barton's neighbours have been obtaining tax credits from the Junior Minerals Exploration Incentive Scheme which is not available to companies once a Resource is reported. Marmota paid A\$0.94M in flow through credits to its shareholders in July 2022.

### Marmota (ASX:MEU)

Marmota is a key player in the region from a tolling perspective. It owns 100% of the Aurora Tank project which looks very promising, as well as being the major partner of Barton in a number of lower grade deposits that make up the Jumbuck project of the Western Gawler Craton Joint Venture.

Figure 13 Marmota's tenements



Source: Marmota ASX:MEU quarterly release 17 April 2023

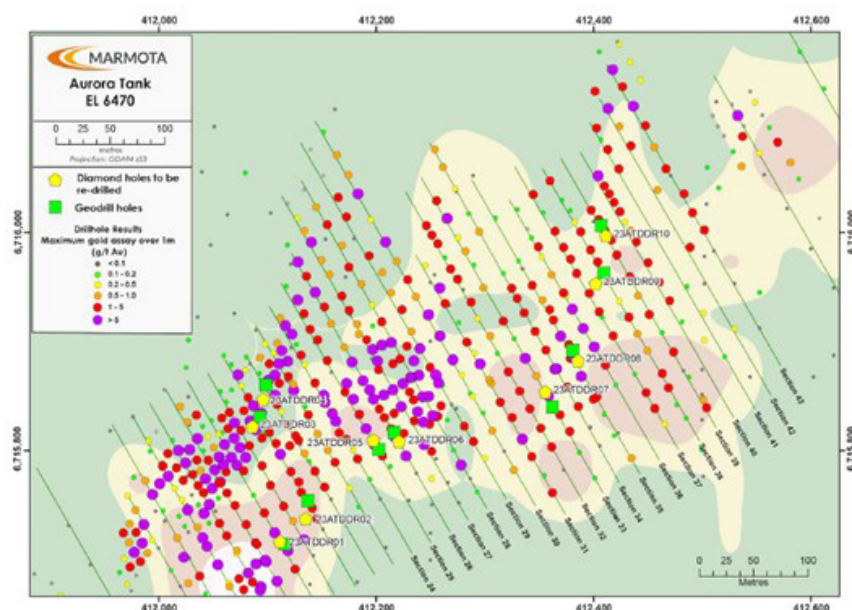
Marmota is intending to get into production at its Aurora Tank project. In its March 2023 quarterly activities statement of 17 April 2023 (p7), it reported that it was looking to hire a production manager to bring its Aurora Tank discovery into production using heap leaching.

It has yet to report Reserve or Resources but has been spending a steady A\$1.5Mpa on drilling and geology for the last three years at least and has A\$4.9M in cash at 31 March 2023, so it is in a position to deliver a project to the point where construction funding is required, but not enough to proceed with construction.

As discussed in the Tarcoola section (Table 14), Marmota could probably pay A\$65/t for toll processing and be no worse off. The benefit of tolling is largely related to the additional gold recovery which means the benefit of CIL plant processing is more in recovery than in capital cost savings, and the longer the mine runs for, the greater the savings on total A\$M. Generally, the higher the ore grade, the greater the improvement in recovery from processing in a CIP gold plant like the Central Gawler Processing Plant.

### Marmota’s 100% owned Aurora Tank Project

Figure 14 Marmota’s Aurora Tank grill collar locations and indication of best grade in each hole



Source: MEU release 11 May 2023

Aurora Tank Has been drilled out at what looks like 25m centres, so with that density of drilling, Marmota should be able to declare a Measured Resource any time it so chooses.

From the reported intersections, it looks like the mine would produce a very high grade ore, but it may be that the reported holes were the best, and the average grade will be lower. Whatever the grade will be, it is likely to be an excellent open pit grade with plenty of margin.

The Aurora Tank ore leaching performance was tested in 2017 and achieved recoveries of between 94% and 97% after 48 hours residence (Marmota release 30 October 2017). The grades of the samples tested were between 1.48g/t and 2.46g/t. This level of recovery is indicative of what would be recovered through a plant like the Central Gawler Plant.

Marmota conducted column leach tests to simulate the leaching of gold from dumps and achieved 76% to 83% recovery from a one metre high leach column (MEU release 10 October 2019).

Overall, the recovery differential for Aurora Tank between processing through the Central Gawler processing plant and heap leaching on site appears to be similar to the Perseverance numbers in Table 14, so the benefits of Marmota doing a tolling deal with Barton would also be similar.

### Western Gawler Craton Joint Venture

The Western Gawler Craton Joint Venture has a reported Resource of 319Koz in six deposits, with 228koz two of the deposits.

The two largest deposits, Campfire Bore and Golf Bore, are contained in EL6569 in which Barton’s interest is 19.04%.

Table 15 Western Gawler Craton Joint Venture Ownership

Western Gawler Craton Joint Venture	Barton Formal Interest	Barton Interest in Gold content	
		Northern Portion	Southern Portion
EL5998	90%	19.04%	19.04%
EL6569	90%	19.04%	19.04%
EL5767	100%	21.16%	21.16%
EL6012	100%	21.16%	21.16%
EL6173	100%	21.16%	21.16%
EL6532	100%	21.16%	21.16%
EL6502	100%	100%	21.16%

Source: BGD prospectus p224

The formal interest is the for Government reporting purposes and for minerals other than gold. The gold interest has been sold down into the joint venture with Barton retaining the interests shown.

**Table 16 Western Gawler Craton Joint Venture Resources**

	Indicated			Inferred			Total		
	Mt	g/t Au	Koz	Mt	g/t Au	Koz	Mt	g/t Au	Koz
<b>WGC JV (BGD 19.04-21.16%)</b>									
Golf Bore	0.6	1.00	18	3.2	1.00	100	3.8	1.00	119
Campfire Bore				2.8	1.20	109	2.8	1.20	109
Greenwood	0.1	1.40	7	0.8	1.60	39	0.9	1.60	46
Monsoon				0.6	0.80	17	0.6	0.80	17
Typhoon				0.3	1.90	16	0.3	1.90	16
Mainwood				0.4	1.10	12	0.4	1.10	12
<b>Total</b>	<b>0.7</b>	<b>1.10</b>	<b>25</b>	<b>8.0</b>	<b>1.10</b>	<b>294</b>	<b>8.7</b>	<b>1.10</b>	<b>319</b>

Source: BGD release 26 April 2023

The table below is a very approximate estimate of the costs of producing gold from the two larger deposits. The material mined, waste and grade have been plucked from thin air, but if they were the numbers, the cost of gold production would be A\$2300/oz and if the processing cost was increased to A\$55/t (i.e. a tolling change), the mine would be running at cash breakeven at A\$2950/oz gold price.

At a grade of 1g/t, and a gold price of A\$2900/oz, these deposits appear to be marginal so they have not been included in any valuation.

**Table 17 Back of envelope costs for processing Golf Bore/Campfire Bore through Gawler Plant**

Assumed material mined Mt	5	Contained koz	161
Assumed Waste Mined	30	Recovery	90%
Assumed Grade g/t	1	Recovered Gold	145
Mining A\$/t moved	3	Mining A\$M	125
Grade Control & Haul to Plant A\$/t ore	4	Processing A\$M	185
Processing A\$/t milled	37	G&A A\$M	25
G&A A\$/t	5	Total A\$M	335
Total A\$/t	64	Costs A\$/oz	2315

Source: IIR estimates

## STAGE 2: DEVELOPING A SECOND LARGE PLANT AT TUNKILLIA

### LOCATION AND TENURE

The Tunkillia Project area is located 530 km north-west of Adelaide in South Australia's Gawler Craton. It is 100% owned by Tunkillia 2 Pty Ltd which is a wholly owned subsidiary of Barton Gold Holdings Limited. The project comprises two exploration licences that were grouped into an Amalgamated Expenditure Agreement on 4th October 2012 and Joint Venture Reporting on 21st January 2013.

Most of the South Australian tenements held by WPG Resources were bought by current owner Barton Gold Pty Ltd on 1st November 2019. The three current tenements comprise EL6845, EL6639 and EL5901 which have a combined area of 1,362 km<sup>2</sup>.

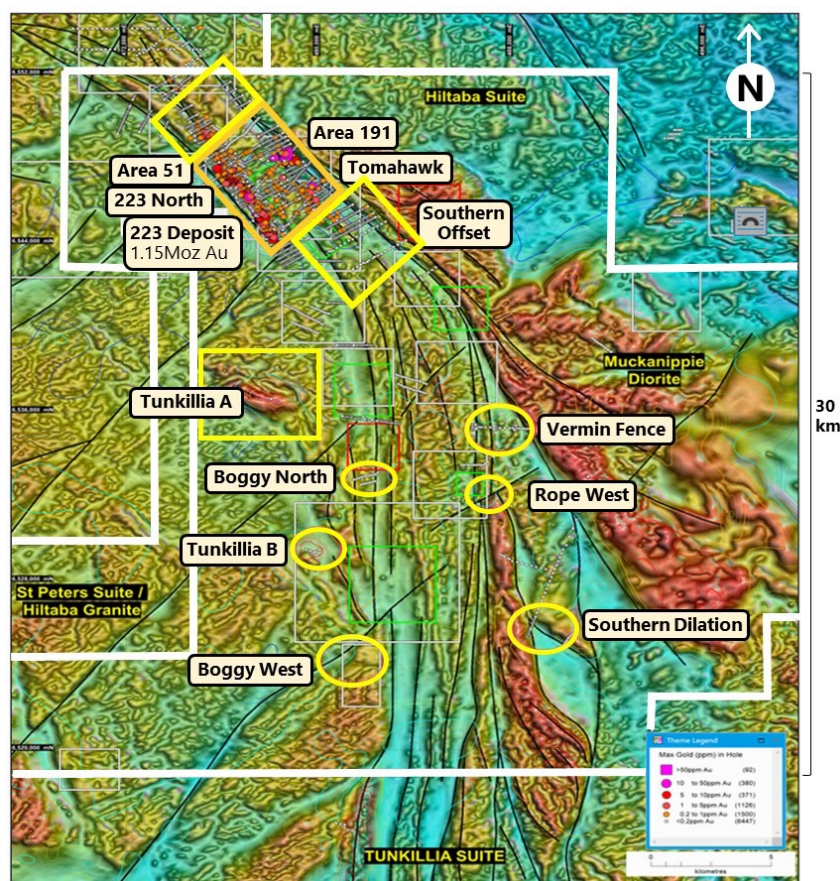
The Tunkillia Project was under three overlapping Native Title claims which are now grouped into a single organisation, the Gawler Ranges Aboriginal Corporation (GRAC) that represents all three groups. Barton Gold's negotiations with GRAC secured a signed Native Title Mining Agreement for Exploration for ELs 6845, EL6639 and EL5901 on 2nd February 2021.

Barton's Exploration Licences 6845, 6639 and 5901 are subject to South Australian State royalties and entitled to a reduced 'new mine' State royalty rate of 2% of the value of minerals recovered until 30 June 2026, after which it rises to 3.5%. They are also subject to 2.5% of private royalties (gross product). There are no joint ventures over the Tunkillia Project tenure.



## GEOLOGY

Figure 15 Regional Tunkillia geology



Source: BGD presentation 10 May 2023

The Tunkillia Project extends over a large portion of the Central Gawler Craton of South Australia which is bound to the east by the Gawler Range Volcanic Province. The central portion of the Gawler Craton consists of a variety of geological units and is structurally complex.

Archaean metamorphic rocks and greenstone-belt units are distributed along WSW–ENE trends. During the Paleoproterozoic, granitoids including the Tunkillia Suite were emplaced possibly with associated deformation.

During these deformation episodes, major shear zones developed, including the east trending Yerda and Oolabinnia Shear Zones and north-trending Yarlbirinda Shear Zone. The Yarlbirinda Shear Zone and Yerda Shear Zone are up to several kilometres wide with ductile shearing and deformation probably occurring before ~1600 Ma and before Mesoproterozoic anorogenic magmatism.

During the Mesoproterozoic, widespread anorogenic magmatism across the central portion of the craton resulted the Gawler Range Volcanics, Hiltaba Suite granite (1595-1575 Ma) and emplacement of minor gabbroic plugs. Development of copper gold uranium mineralisation at Olympic Dam and Prominent Hill and gold dominant mineralisation at Tunkillia and Tarcoola occurred during this period.

Typical lithologies encountered in the Area 223 deposit from west to east include variably sheared chlorite-biotite-rich augen gneiss (Tunkillia Augen Gneiss) grading into a highly chloritised and mylonitised phyllitic shear. The phyllitic shear zone grades into a weakly gneissic unit to the east which is variably altered by sericite to form the central alteration zone. This unit has a sheared contact with the footwall granite.

The host rocks have been intruded by at least two later episodes of dyke emplacement.

The mafic dyke appears to form the footwall to the main mineralisation at Area 223. The relationships between dyke emplacement and the mineralisation remain unclear. The dykes appear to cross-cut mineralisation at Area 223 and are unmineralised in fresh rock.

However, in the weathered zone gold occurs within the weathered dyke and also to east of this apparent 'bounding' lithology. The main mineralisation appears to occur within en-echelon sets of quartz-sulphide tension veins predominately bounded by duplex shears, with brittle fractures extending into the hanging wall.

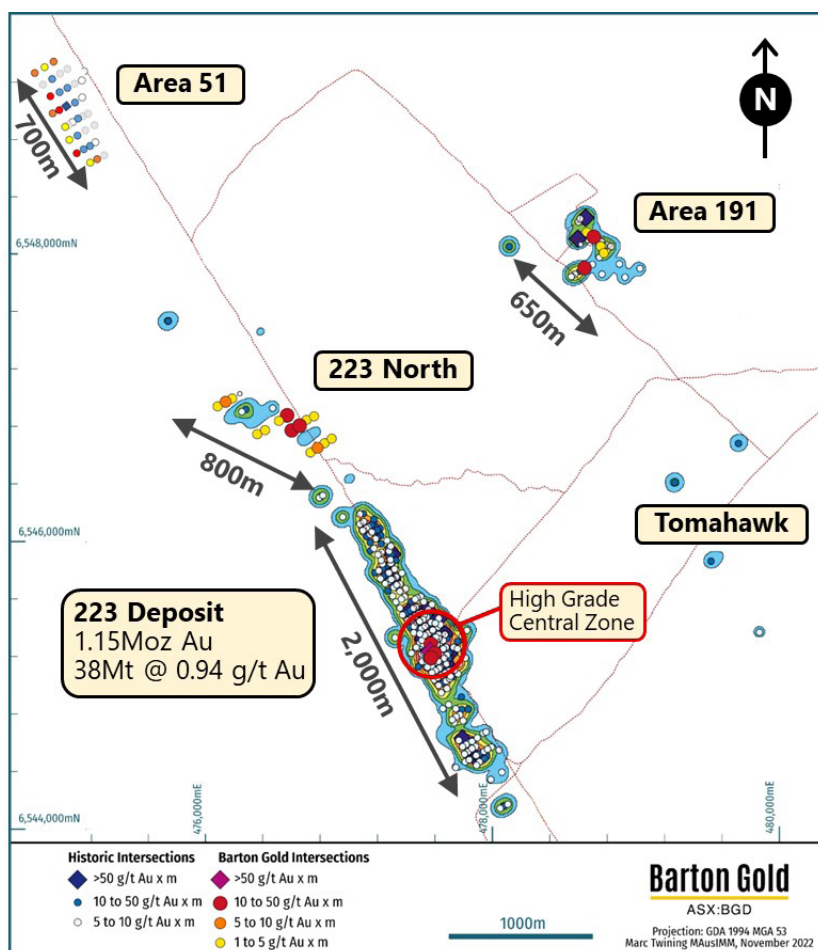
The mineralised sequence at Area 223 has undergone extensive weathering which formed a leached kaolinitic profile capped by a silcrete layer. No paleochannels are observed at Area 223 although they do occur elsewhere in the Tunkillia area. At 50-60 metres depth near the base of the weathering profile a zone of supergene mineralisation is developed which shows some enrichment compared with the underlying primary lodes. Gold appears to have been laterally dispersed over a distance of tens of metres within the oxide zone.

## EXPLORATION TARGETS

The mineralisation at Tunkillia remains open along strike and downdip with potential for additional gold mineralisation at the Area 223 deposit and in other parallel structures in the area including Area 223 North, Area 51, Tomahawk and Area 191.

Barton Gold is planning further drilling work which will be focused on testing for dip and strike extensions and to confirm grade and geological continuity within the current model. While geophysical coverage already exists, additional geophysical exploration techniques may be undertaken as the project continues and may include magnetic surveys and ground-based gravity.

Figure 16 Identified areas of interest in the Tunkillia project

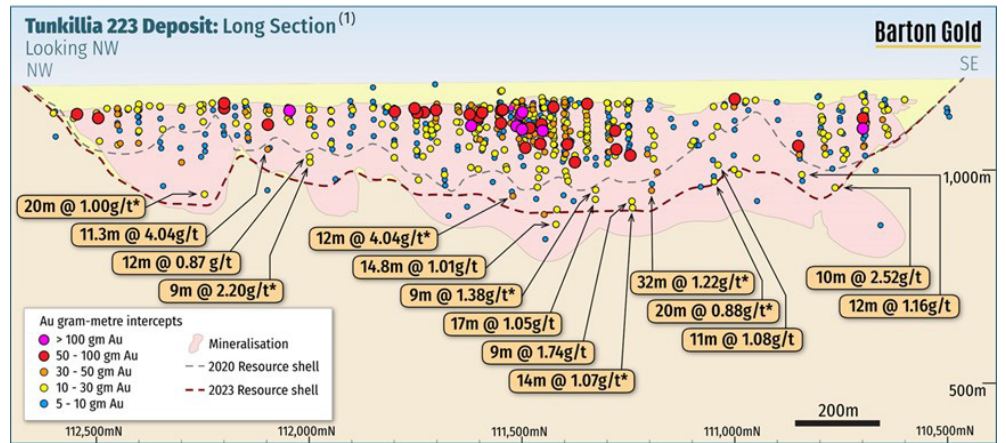


Source: BGD presentation 10 May 2023

## 223 Deposit

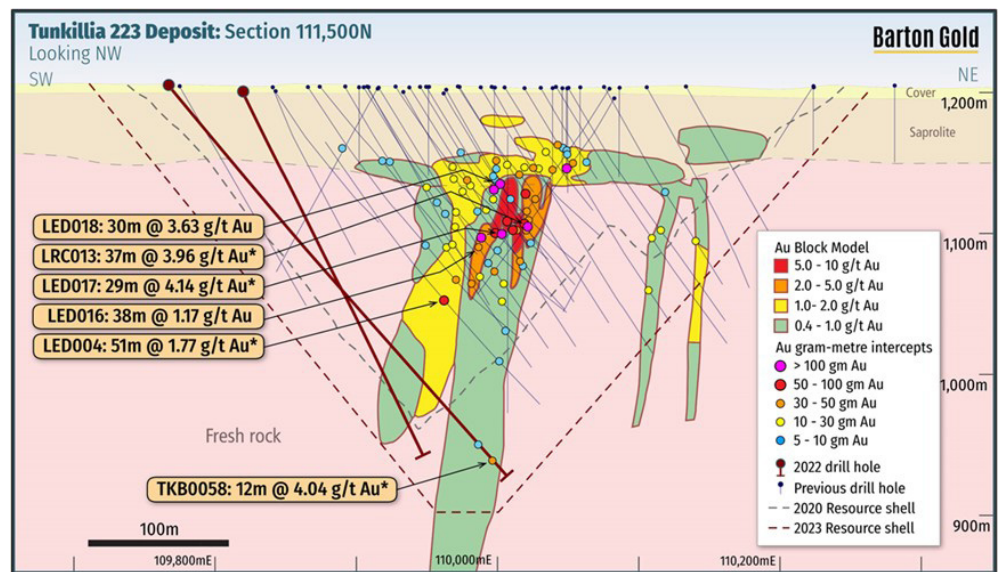
The Tunkillia 223 deposit is the major Resource for the project at present, and is approximately 2.0 km strike and is between 20 and 100 metres wide. The depth of the deposit had been defined beyond 400 m below the surface. The reported Resource has been reported to 300 m below the surface. Mineralisation strikes NW and dips steeply to the SW at around 70°. The shear structure and contained high grade shoots are expected to propagate to depth and are open down plunge.

Figure 17 Section along the 2km strike of the 223 deposit (the dotted brown line is the limit of the Resource model)



Source: BGD presentation 10 May 2023, Note that gm in the key refers to gram metres ie the grade of an intersection multiplied by the length of the intersection so 2g/t x 25m = 50gm

Figure 18 Cross section of the 223 deposit at 111,500N (the middle of Figure 12)



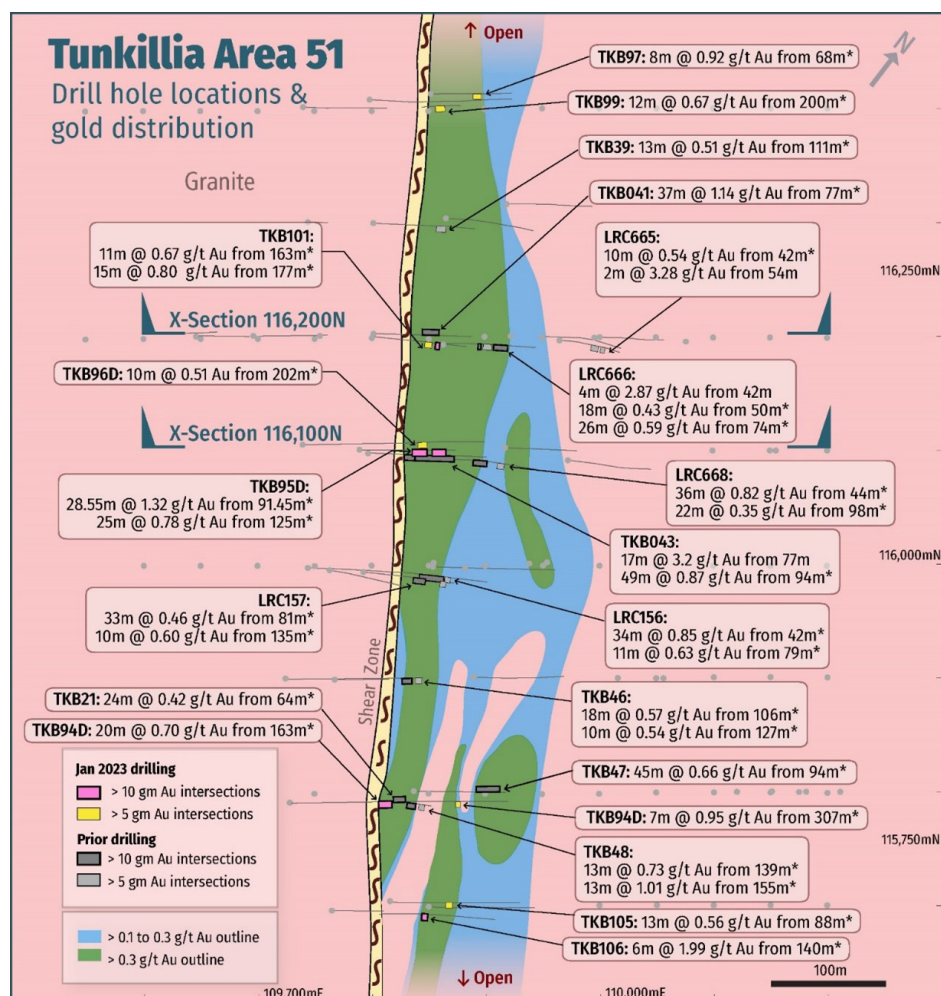
Source: BGD presentation 10 May 2023

### AREA 51 PROSPECT

Area 51 is interpreted by the company to have over 700m strike along which +50 gram-metre core has been generated. This is indicative of a significant gold system close to the 223 Deposit. This is the first of Barton’s regional ‘step out’ targets in what appears to be a heavily mineralised environment.



Figure 19 Plan view of Area 51 showing the locations of the two cross sections (Figures 15 and 16)



Source: BGD release 19 April 2023

From the two sections below, which are 100m apart, there appears to be a wedge of mineralisation 150m deep, 120m wide which if confirmed would amount to around 2Mt of mineralised material between those two sections.

The width weighted average grade of the drilling reported in BGD release on 19 April 2023 and 5 September 2022 was 0.93g/t. The intercepts present as stacked lodes of 1-10m in thickness. Barton management have indicated that they believe that the drilling is perpendicular to lode orientation, so these intercepts may be true width (ie the thickness of the actual orebody).

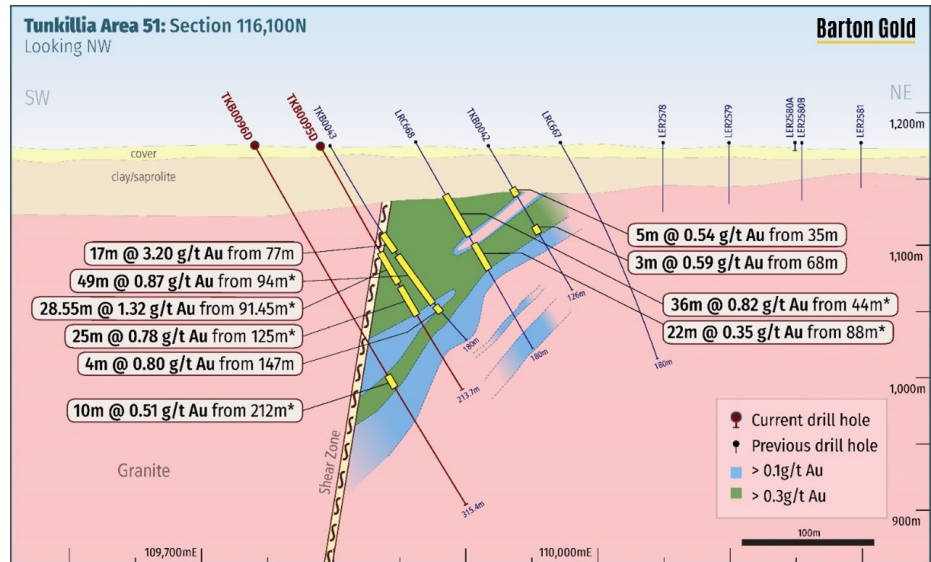
The 2 million tonnes of mineralisation over 100m would imply 6-10Mt over the strike length of 700m, allowing for a thinning of the deposit away from the centre. We would expect that Area 51 will contribute to the Resource base and could add an ultimate Resource of 3-8Mt at 0.8 to 1.0g/t for 77-322koz.

Table 18 Estimated size of Resource addition from Area 51

Area 51	Mt	Gold g/t	Gold koz
Low Estimate	3	0.8	77
High Estimate	10	1.0	322

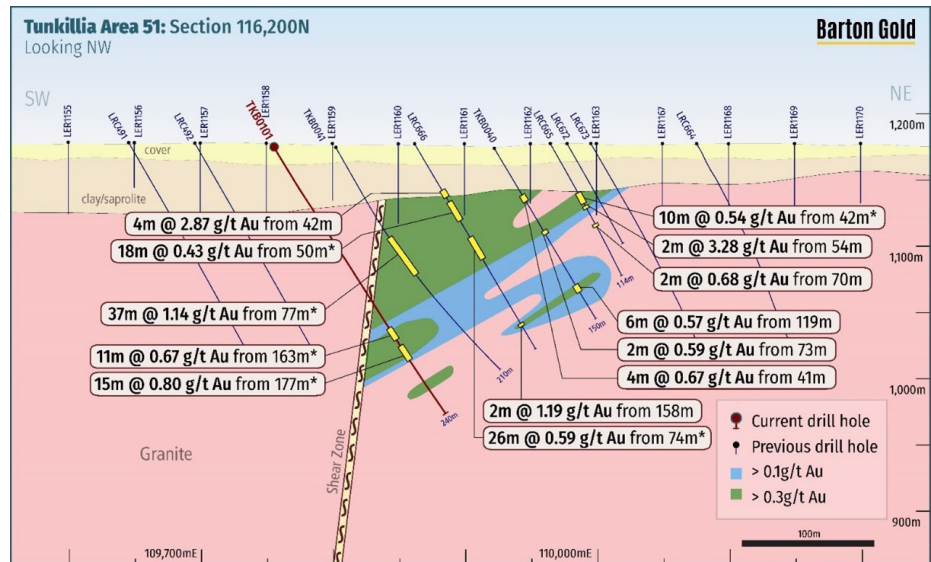
Source: IIR estimates

Figure 20 Area 51 cross section on grid 116,100N



Source: BGD release 19 April 2023

Figure 21 Area 51 cross section on grid 116,200N



Source: BGD release 19 April 2023

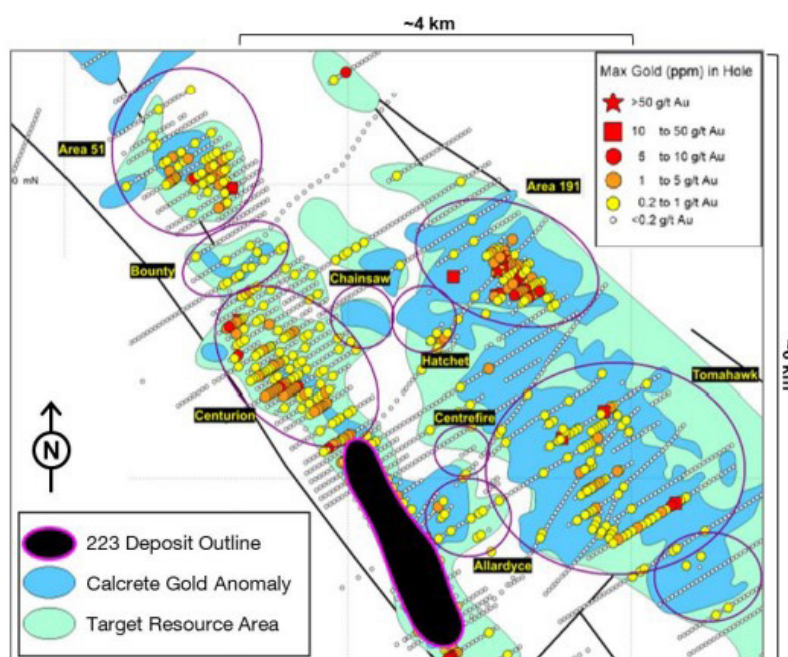
**Other targets close to 223**

Barton has other significant targets including

- ◆ Area 223 North (called Centurion in the figure below)
- ◆ Area 191
- ◆ Tomahawk

The area is a large mineral system and even though Tunkillia has been recognised for many years, it is still relatively early days in terms of exploration.

Figure 22 Other targets close to 223



Source: BGD release 3 November 2021

### WHAT WOULD A 5MTPA OPERATION AT TUNKILLIA LOOK LIKE?

Barton’s ambition to have a 5Mtpa 150kozpa operation with a eight-year life would require 1.2Moz in a 1g/t Reserve.

#### Start with Resources and Reserves

Some of those tonnes can come from Tarcoola, but in round terms, our financial modelling assumes that Barton needs a Reserve of 50Mt at Tunkillia.

Table 19 Resource to Reserve conversion for some recent large scale open pit mining operations

	Mt	g/t Au	Koz Au	Source
<b>Capricorn Bibra Operation</b>				
				CMM 2022 Annual Report
Indicated Resource	82.3	0.70	1945	
Reserve	53.0	0.80	1344	
Conversion	64%	114%	69%	
<b>Capricorn Mt Gibson Project</b>				
				CMM release 19-Apr-23
Indicated Resource	76.0	0.86	2106	
Reserve	48.7	0.93	1450	
Conversion	64%	107%	69%	
<b>Red 5 King of the Hills</b>				
				RED 2022 Annual Report
Measured Resource	1.3	1.20	50	
Indicated Resource	66.9	1.30	2800	
M&I Resource	68.2	1.30	2850	
Reserve	60.4	1.20	2322	
Conversion	89%	92%	81%	
<b>De Grey Hemi</b>				
				DEG release 8-Sep-22
M&I Resource	158.0	1.40	6900	
Reserve	103.4	1.50	5100	
Conversion	65%	107%	74%	
<b>Gold Road Gruyere</b>				
				GOR release 6-Dec-18
M&I Resource	105.0	1.25	4260	
Reserve	93.8	1.18	2560	
Conversion	89%	94%	60%	

Sources: See column 5

The table above shows the relationships between Measured plus Indicated Resources and Reserves. Inferred Resources are not well enough defined to allow conversion into Reserves.

The mines with Resources below 1g/t have a 64% tonnage conversion and 7-14% grade increase into Reserves.

The Capricorn Metals Bibra operation and its Mt Gibson project are similar in grade to that of Tunkillia, so provide the best guide to the rate of conversion.

Applying similar tonnage and grade conversion factors to the existing Tunkillia Resource generates a potential reserve of 24.3Mt at 1.0g/t. Note this is not a number that is compliant with any Australian reporting standards. Also, note that the same conversion factors have been applied to the Inferred Resource. This assumes that all the Inferred Resource is converted to Indicated in future.

The conclusion is that Barton is about halfway to the tonnage it needs to underwrite a 5Mtpa operation, and it would not surprise to see a grade uplift when Reserves were calculated.

**Table 20 Estimating potential Reserves from Tunkillia's existing Resources**

	Indicated			Inferred			Total		
	Mt	g/t Au	Koz	Mt	g/t Au	Koz	Mt	g/t Au	Koz
<b>Tunkillia (100%)</b>									
Oxide	0.30	1.19	11	0.3	1.00	8	0.50	1.10	19
Transition	3.7	1.05	124	2.9	0.87	82	6.6	0.97	205
Fresh	18.0	0.92	535	12.8	0.96	394	30.9	0.94	929
<b>Total</b>	<b>22.0</b>	<b>0.95</b>	<b>670</b>	<b>16.0</b>	<b>0.94</b>	<b>484</b>	<b>38.0</b>	<b>0.94</b>	<b>1154</b>
Conversion Rates	64%	110%	71%	64%	110%	70%			
<b>Potential Reserve</b>									
<b>Lower Estimate</b>	<b>14.1</b>	<b>1.05</b>	<b>473</b>	<b>10.2</b>	<b>1.03</b>	<b>340</b>	<b>24.3</b>	<b>1.04</b>	<b>814</b>
<b>Higher Estimate</b>	<b>22.0</b>	<b>0.95</b>	<b>670</b>	<b>16.0</b>	<b>0.94</b>	<b>484</b>	<b>38.0</b>	<b>0.94</b>	<b>1154</b>

Source: Tunkillia Resource BGD release 26 April 2023 with conversion factors based on Capricorn's operations in Table 19

There could be a higher tonnage conversion because Barton has included in Resources only the tonnes that are inside the mining pit shell, so in theory, there could be 100% conversion of tonnes, and the Resource grade may not change much.

If this were the case, then Barton already has close to the sufficient minimum of 40Mt.

In our project analysis, we have assumed a Reserve 50Mt at 1.04g/t, and then run sensitivities.

### Capital Costs

The most recent guide to the pre-production cost of a 5Mtpa operations is Capricorn's 5Mtpa Mt Gibson project. The pre-production costs for that project are presented in the table below. They were released to the market on 19 April 2023, so represent the latest understanding of the current cost environment by a very competent gold mine project developer.

**Table 21 Estimating Tunkillia pre-production costs based on Capricorn's Mt Gibson project**

ASM	Mt Gibson	Tunkillia
Process plant	140	157
Water exploration & bore field	15	17
Site infrastructure	65	73
Owners Costs	40	45
Total Plant	260	291
Contingency 15%		44
Pre-production mining - Table 22	79	50
Pre-Production Project Costs	339	385
PFS & Infill drilling costs	25	30
Total Pre-production costs	364	415

Source: CMM release 19 April 2023, 15 December 2021, 11 January 2022, IIR estimates

From the Mt Gibson costs, the potential costs for the Tunkillia project have been developed, with the following adjustments:

- ◆ The plant costs have been inflated by 12% to reflect 4%pa inflation between the Mt Gibson cost base of late 2022 and June 2026 when the Tunkillia PFS is likely to be presented.
- ◆ 15% contingency has been added to reflect possible cost inflation and scope changes after the PFS has been presented. Capricorn management do not include contingency in their estimates.

- ◆ Pre-mining has been included but is less than Mt Gibson, reflecting the Tunkillia site has not been mined before, and initial ore is potentially closer to surface.
- ◆ The cost of the PFS has also been estimated at A\$30M. While this is not part of the Mt Gibson pre-production cost in its PFS, it is a cost that Barton will incur and needs to be estimated. The cost in the Mt Gibson column reflects two drill programs totalling 190,000 metres and costing A\$20M, and an IIR estimate of A\$5M for engineering and compiling the Pre-Feasibility Study documents. The drill out covered the 8km strike at Mt Gibson, and the Tunkillia Area 223 deposit strike is only 2km, so may be a lower cost drill out.

**Table 22 Pre-production mining cost estimates**

Pre-production mining	Mt Gibson	Tunkillia
Waste Mt	34	18
Ore Mt	2	2
Total Mt	36	20
Strip Ratio	17	9
Cost A\$M	79	50
Cost A\$/t moved	2.21	2.48

Source: CMM release 19 April 2023, IIR estimates

### Development Timeline

The development of the Mt Gibson project by Capricorn should be typical of what can be achieved by a competent, focused management. We have assumed a similar time frame for Barton.

**Table 23 Development timetable**

Milestone	Mt Gibson	Tunkillia
Commence Infill drillout	15-Dec-21	Jan-24
Complete PFS	19-Apr-23	Jun-25
Apply for permits	1-Jun-23	Sep-25
Commence Construction	July-December 2024	Sep-26
Commence Operations	July-December 2025	Sep-27

Source: CMM release 19 April 2023, IIR estimates

### Operating Costs

The operating costs have not been escalated because the gold price is not escalated for inflation. The gold sector tends to be valued in real or constant dollar terms at the spot gold price of the day held constant. The assumption is that if inflation drives costs up, it will drive the gold price up as well. However, the project is very sensitive to operating costs, so investors should refer to the sensitivity section.

### Mining

The Tunkillia resource is constrained within a pit shell. That is, mineralisation outside the pit shell has not been included in the Resource. The Strip Ratio of that pit shell is 6.9:1 (Barton Tunkillia Resource Increase release 26 April 2023 p24). Typically, pit shells for Resource estimation do not contain provision for truck access ramps, which as a rule of thumb increase waste by up to 20%.

For the financial model the strip ratio of 6.9:1 has been increased by 20% to 8.4:1.

### Processing

Gold recovery in fresh (Primary) ranges between 81 and 93% and in oxide between 92 to 97% recovery using different scenarios. The 2009 and 2013 studies show adding a gravity circuit does not improve recovery. Heap Leach recovery is 76% in oxide material and low 30% in fresh material. The financial model has assumed 95% recovery in oxide ( i.e. the first year) then 93% thereafter.



**Table 24 Deriving Tunkillia costs from Capricorn's Mt Gibson project**

Operating Cost A\$M	Mt Gibson	Tunkillia		Tunkillia IIR Est	
		BGD Est			
Waste Mined Mt	195.0		276.0	345.0	414.0
Ore Mined Mt	47.0		40.0	50.0	60.0
Ore Processed Mt	48.7		40.0	50.0	60.0
Head Grade g/t Au	0.93		0.90	0.90	1.00
Contained Gold koz	1456		1158	1447	1929
Recovery	92.6%		93.0%	93.0%	93.0%
Recovered Gold koz	1349		1077	1346	1794
Mining A\$/t Moved	3.00		3.00	3.00	3.00
Grade Control etc A\$/t ore	6.00		6.00	6.00	6.00
Processing A\$/t ore milled	16.08	14.00	16.08	16.08	16.08
G&A A\$/t ore milled	1.70	na	2.00	2.00	2.00
Total A\$/t ore	39.23	32.79	47.78	47.78	47.78
Mining A\$M	1033		1188	1485	1782
Processing A\$M	783		643	804	965
Administration A\$M	83		80	100	120
Total A\$M	1898		1911	2389	2867
AISC A\$/oz	1407		1775	1775	1598

Source: CMM release 19 April 2023, Strip Ratio for Tunkillia 6.9 per BGD release of 26 April 2023 p24, IIR estimates

### Royalties

- ◆ State Royalty is 2% until 30 June 2026 then 3.5%.
- ◆ Private royalties are 2.5% of gross revenue.

## GREENFIELDS EXPLORATION

On 11 April 2023, Barton and SensOre (ASX:S3N) have entered into Stage 2 of an agreement where Barton has exclusive rights to the use of SensOre's Discriminant Predictive Targeting technology in the area of interest defined in the figure below, targeting gold and copper.

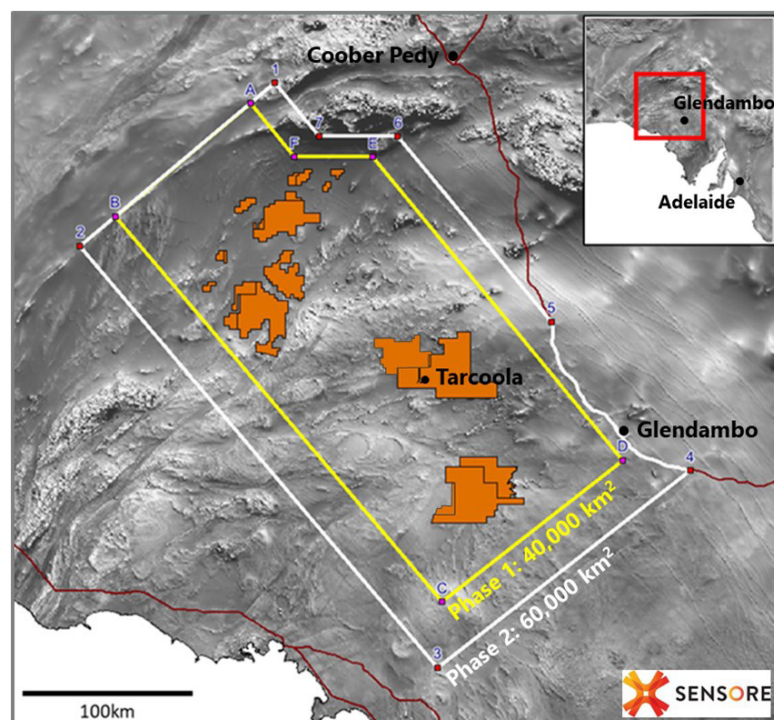
Barton is entitled to 10 years exclusive use within the area of interest. SensOre is entitled to a royalty on any production from any discoveries arising from the use of the technology.

Barton contributed A\$45,000 to the first phase of development to orient SensOre's technology to the project area, and will spend a further A\$350,000 further refining the targeting module and testing it over a 60,000km<sup>2</sup> region around its projects.

This technology is a target generating system. Any targets identified will have to be drilled.



Figure 23 Area covered by the SensOre exploration agreement



Source: BGD presentation 22 March 2023

## CAPITAL STRUCTURE

### ISSUED CAPITAL

Table 25 Capital structure

Issued Capital			
Security	million	%	Exercise Funds A\$M
Ordinary shares unrestricted	86.333	44.4%	
Ordinary shares restricted	89.657	46.1%	
<b>Total Ordinary shares on issue</b>	<b>175.991</b>	<b>90.4%</b>	
Options			
22 November 2025 \$0.20 exercise price	0.300	0.2%	0.06
12 January 2026 nil exercise price	0.043	0.0%	0.00
30 June 2027 nil exercise price	4.881	2.5%	0.00
1 November 2025 nil exercise price	1.118	0.6%	0.00
15 March 2025 2025 \$0.375 exercise	0.750	0.4%	0.28
30 June 2026 nil exercise price	1.991	1.0%	0.00
13 April 2026 nil exercise price	0.039	0.0%	0.00
18 June 2024 Restricted	1.500	0.8%	0.00
18 June 2024 Restricted	1.500	0.8%	0.00
15 Mar 2026 Restricted	6.500	3.3%	0.00
<b>Total Options</b>	<b>18.622</b>	<b>9.6%</b>	<b>0.34</b>
<b>Total Shares and Options</b>	<b>194.613</b>	<b>100.0%</b>	

Source: BGD release 13 April 2023

Barton Gold has a relatively clean capital structure with options accounting for 9.6% of diluted capital. There is a significant block of shares in escrow until 28 June 2023. The company has no debt and no convertible notes on issue.

## ISSUANCE HISTORY

**Table 26 Share issuance and year end balances**

Details	Date of issue	Number of shares	Issue Price per share	Raised \$M
Balance	1-Jul-20	200,604,063		4.741
Share issue	20-Jul-20	2,492,877	0.20	0.500
Share issue	10-Aug-20	123,750	0.24	0.030
Share issue	10-Sep-20	2,496,368	0.20	0.501
Share issue	1-Dec-20	918,750	0.27	0.252
Share consolidation (2:1)	15-Mar-21	-103,317,893		
Conversion of convertible note	14-Jun-21	12,298,804	0.25	3.069
Initial public offer	18-Jun-21	60,000,000	0.25	15.000
Transaction costs				-0.583
<b>Balance at 30 June 2021</b>	<b>30-Jun-21</b>	<b>175,616,719</b>		<b>23.510</b>
Transaction costs credit				0.030
<b>Balance at 30 June 2022</b>	<b>30-Jun-22</b>	<b>175,616,719</b>		<b>23.540</b>
Payment to market advisory	14-Nov-22	140,000	0.15	0.021
Payment to market advisory	22-Nov-22	143,080	0.15	0.021
Payment for investor relations	15-Mar-23	90,794	0.23	0.021
<b>Balance at</b>	<b>15-Mar-23</b>	<b>175,990,593</b>		<b>23.603</b>

Source: BDG notifications to ASX on dates in column 2

The company has raised no cash since it listed in 28 June 2021, with the only shares issued since then being in lieu of payments for services.

## SHAREHOLDER STRUCTURE

At 15 March 2023, the split of shareholdings was:

- ◆ Board and management 32.9%
- ◆ Institutional and Corporate 13.8%
- ◆ High Net Worth and Retail 53.3%

The register is fairly tight, and this has an impact on liquidity, with an average of around A\$100k traded per week in the last six months. This could improve a little as the large block of escrowed shares become unrestricted after 28 June 2023.

**Table 27 Major shareholders**

Name	Ordinary Shares	Percentage (%)
Gocta Holdings Pty Ltd	43,611,459	24.8%
Six Fingers Pty Ltd	13,974,649	8.0%
Telarah Holdings Pty Ltd	13,964,234	8.0%
GateJ Pty Ltd (The Gabal A/C)	13,932,984	7.9%
J P Morgan Nominees Australia	8,600,000	4.9%
Primero Group Ltd	7,481,250	4.3%
Citicorp Nominees Pty Limited	4,094,068	2.3%
Juan Herraes Balanzat	3,311,981	1.9%
Magliano Pty Ltd	2,000,000	1.1%
Berne No 132 Nominees Pty Ltd	2,000,000	1.1%
Andrew Campbell Bales	1,822,917	1.0%
Superhero Securities Limited	1,811,295	1.0%
CS Fourth Nominees Pty Limited	1,695,744	1.0%
Retzos Executive Pty Ltd	1,400,000	0.8%
I & C Hartmann Investments Pty Ltd	1,396,362	0.8%
Norup & Wilson Pty Ltd	1,025,000	0.6%
Alkat Pty Ltd <Bowen Welsh (BWT) A/C>	1,000,000	0.6%
Mr Gareth Yeung Sum Ho	969,609	0.6%
Treasury Services Group Pty Ltd Nero Resource Fund	800,000	0.5%
BNP Paribas Nominees (Ib Au Noms Retailclient)	759,279	0.4%
<b>TOTAL</b>	<b>125,650,831</b>	<b>71.6%</b>

Source: 2022 annual report at 22 August 2022

## BOARD AND MANAGEMENT

### **Kenneth Williams - Non-Executive Chairman**

Ken has more than 30 years' corporate experience and over 20 years' experience as a resource exploration company Director, including 9 years as Director and Chair of AWE Limited (ASX:AWE). From 1999 to 2003 Ken was the Group Treasurer, then CFO, and then Group Finance Executive for Normandy Mining (subsequently Newmont Australia). He is currently Chair of Statewide Super, a non-executive director of Archer Materials Ltd (ASX:AXE) and a member of Council of the University of Adelaide.

Ken is a graduate of the University of Western Australia (BSc Economics Honours) and Macquarie University (MAppFin), is a Fellow of the Australian Institute of Company Directors (AICD), and is a member of the Council of the University of Adelaide.

### **Alexander Scanlon – Managing Director and CEO**

Alex is the founder of Barton Gold and a financial economist with ~20 years' experience in financial analysis, consulting, structured finance and mining advisory, investment and management. He was previously Managing Director of PARQ Capital Management and a Director with Lusona Capital where he focused on corporate advisory and principal investments in the natural resources sector, and before that an Executive in the Principal Investments Area of Barclays Capital.

Alex is a graduate of Santa Clara University (BSc Finance Honours & BSc Economics Honours), the University of Oxford (MSc Financial Economics) and the University of Cambridge (MPhil Management).

### **Christian Paech - Non-Executive Director**

Christian is a lawyer with more than 25 years' experience including senior roles with ASX-listed Santos Ltd as General Counsel (2010-19) and Company Secretary (2017-19) where he was a key advisor to the Board on matters including M&A, litigation, risk management and ASX disclosure obligations. He was previously a Partner at Piper Alderman and a lawyer with Herbert Smith Freehills and Ashurst.

Christian is a graduate of the University of Adelaide (BCom Accounting and Bachelor of Laws (Honours)), and is a member of the Australian Institute of Company Directors (AICD).

### **Graham Arvidson – Non-Executive Director**

Graham is a mechanical engineer with more than 15 years' industry experience in key leadership roles including project studies, design, construction, commissioning and operations management. He is the CEO of Australian Vanadium Ltd, and was previously General Manager of Operations and Maintenance for Primero Group Ltd where he specialised in project development, operational turnarounds, and optimisation of mineral processing operations with complex metallurgy. Graham is a graduate of University of Alberta (BSc Mechanical Engineering) and Curtin University (MBA and MSc Mineral Economics), a CPEng, CPMet, a graduate of the AICD's Company Directors course, and is a longstanding member of AusIMM..

### **Neil Rose – Non-Executive Director**

Neil is a chartered accountant with a diverse background across the commercial property and natural resources sectors. He has significant experience in the identification, acquisition, financing and development of multiple resources and property companies and projects. Neil is a Director of Lever Property, a commercial property focused business in Western Australia, and Tribar Capital, a private natural resource investment company.

Neil is a graduate of the University of Western Australia (BCom Finance & Accounting).

### **Nicholas Byrne – Chief-Financial Officer**

Nicholas is a Certified Practising Accountant with ~30 years' experience working in the Australian resources and engineering sectors. He has extensive experience in South Australia, including ~20 years with leading companies such as BHP, Kellogg Brown & Root (KBR), Monadelphous, and as CFO and Company Secretary of Heathgate Resources, a subsidiary of global energy and defence firm General Atomics, which owns and operates South Australia's Four Mile and Beverley uranium projects.

Nicholas is a graduate of Edith Cowan University (Bachelor of Business).

**Marc Twining – Exploration Manager**

Marc is a geologist with more than 25 years' global experience in resource development, with extensive experience in South Australia and gold, copper and copper-gold exploration. Marc has previously worked as an exploration geologist for global gold majors Normandy Mining and Newmont, an Exploration Manager for junior exploration companies, and as Senior Principal Geoscientist for the Geological Survey of South Australia. He has played lead roles in the discovery, feasibility analysis and regulatory permitting of significant mineral deposits and has a passion for exploration discovery.

Marc is a graduate of the University of Adelaide (BSc Geology Honours), has obtained a Graduate Certificate of Finance (Macquarie University), and is a member of the Australasian Institute of Mining and Metallurgy (AusIMM), The Australian Institute of Geoscientists (AIG) and the Society of Economic Geologists (SEG).

**David Wilson – General Manager Projects**

David is a surveyor and project manager with more than 40 years' experience, the majority of which has been in the Australian and New Zealand resources sector. David has played leading roles in both open pit and underground mine planning and development. He was previously Chief Surveyor for Normandy Mining's (subsequently Newmont) underground Tanami and open pit Waihi gold mines, then Technical Services Superintendent for Tanami, and spent four years in Normandy / Newmont's influential continuous improvement teams. He was also Mine Superintendent for Polymetals' White Dam gold mine in South Australia.

David is a graduate of the University of South Australia (BTech Surveying) and also holds a Graduate Diploma in Mining from the University of Ballarat and a Graduate Diploma in Finance and Investment from the Securities Institute of Australia.

**Ian Garsed – Principal Geologist**

Ian is a geologist with more than 25 years' industry experience ranging from early-stage exploration through to resource delineation and project evaluations, with a particular emphasis on gold and base metals. He has extensive experience in South Australia exploring for gold and IOCG mineralisation including as General Manager of Exploration for Minotaur Exploration Limited. He has played lead roles in the discovery and definition of multiple iron ore, polymetallic, copper / gold and gold deposits throughout Australia.

Ian is a graduate of Ballarat College (BSc Geology) and Curtin University (MSc Mineral Exploration Technologies), and is a member of the Australian Institute of Geoscientists (AIG) and the Geological Society of Australia (GSA).

**Shannon Coates – Company Secretary**

Shannon is a qualified lawyer and Chartered Secretary with more than 25 years' experience in corporate law and compliance to publicly listed companies across multiple jurisdictions.

Shannon is a graduate of Murdoch University (Bachelor of Laws), the AICD's Company Directors course, was selected for the AICD Chairman's Mentoring Program, and is a past recipient of the WA Women in Mining scholarship. She is currently company secretary to multiple ASX-listed companies.

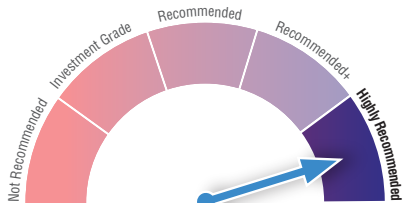
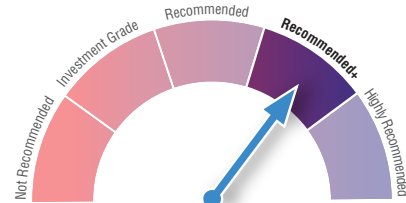
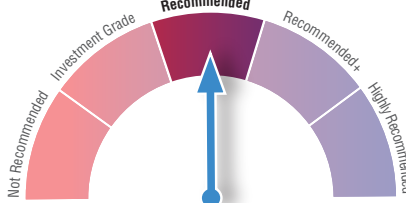
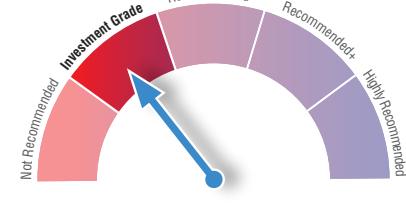
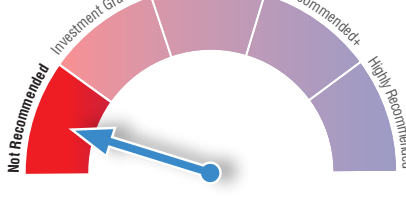
**APPENDIX - TABLE REFERENCES**

## NOTES

## APPENDIX A – RATINGS PROCESS

### Independent Investment Research Pty Ltd “IIR” rating system

IIR has developed a framework for rating investment product offerings in Australia. Our review process gives consideration to a broad number of qualitative and quantitative factors. Essentially, the evaluation process includes the following key factors: management and underlying portfolio construction; investment management, product structure, risk management, experience and performance; fees, risks and likely outcomes.

LMI Ratings	SCORE
<p><b>Highly Recommended</b></p> 	<p><b>83 and above</b></p> <p>This is the highest rating provided by IIR, indicating this is a best of breed product that has exceeded the requirements of our review process across a number of key evaluation parameters and achieved exceptionally high scores in a number of categories. The product provides a highly attractive risk/return trade-off. The Fund is likely effectively to apply industry best practice to manage endogenous risk factors, and, to the extent that it can, exogenous risk factors.</p>
<p><b>Recommended +</b></p> 	<p><b>79–83</b></p> <p>This rating indicates that IIR believes this is a superior grade product that has exceeded the requirements of our review process across a number of key evaluation parameters and achieved high scores in a number of categories. In addition, the product rates highly on one or two attributes in our key criteria. It has an above-average risk/return trade-off and should be able consistently to generate above average risk-adjusted returns in line with stated investment objectives. The Fund should be in a position effectively to manage endogenous risk factors, and, to the extent that it can, exogenous risk factors. This should result in returns that reflect the expected level of risk.</p>
<p><b>Recommended</b></p> 	<p><b>70–79</b></p> <p>This rating indicates that IIR believes this is an above-average grade product that has exceeded the minimum requirements of our review process across a number of key evaluation parameters. It has an above-average risk/return trade-off and should be able to consistently generate above-average risk adjusted returns in line with stated investment objectives.</p>
<p><b>Investment Grade</b></p> 	<p><b>60–70</b></p> <p>This rating indicates that IIR believes this is an average grade product that has exceeded the minimum requirements of our review process across a number of key evaluation parameters. It has an average risk/return trade-off and should be able to consistently generate average risk adjusted returns in line with stated investment objectives.</p>
<p><b>Not Recommended</b></p> 	<p><b>&lt;60</b></p> <p>This rating indicates that IIR believes that despite the product’s merits and attributes, it has failed to meet the minimum aggregate requirements of our review process across a number of key evaluation parameters. While this is a product below the minimum rating to be considered Investment Grade, this does not mean the product is without merit. Funds in this category are considered to be susceptible to high risks that are not reflected by the projected return. Performance volatility, particularly on the down-side, is likely.</p>



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