Breakaway Research

February 2024

VERTEX MINERALS LIMITED (ASX: VTX)

Explorer with near term production potential

PRICE	**A$0.08/share**
PRICE TARGET	**A$0.40/share**

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www.breakawayresearch.com

Company Information

ASX Code	**VTX**
Share Price (5 February 2024)	A$0.08
Ord Shares	76.7m
Market Cap	**A$6.1m**
Options/Performance Rights	20.5m
Market Cap (fully diluted)	**A$7.8m**
Cash (31 December 2023)	A$0.6m
Total Book Debt (31 Dec 2023)	na
Enterprise Value	**A$5.6m**

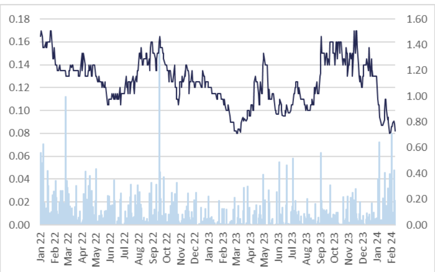
Directors and Senior Management

Exec Chairman	Roger Jackson
Technical Director	Tully Richards
Director (Non-Exec)	Declan Franzmann
Co. Secretary	Alex Neuling

Company Details

Address	Unit 38, 460 Stirling Highway Peppermint Grove, WA 6011
Phone	+61 (0) 8 62706316
Web	www.vertexminerals.com

Price Chart



Price to 28 February 2024

Recommendation: BUY

KEY POINTS

- Vertex gold assets comprise the 9g/t Reward underground mine and adjacent Amalgamated 36ktpa processing plant at Hill End expanding to 120ktpa with production planned by December 2024. There is potential to extend mine life at Reward and extensions to the south and open pit or underground potential at Hargraves and Red Hill project. These assets are located between Orange and Bathurst, New South Wales, Australia. The company has two exploration projects in Western Australia prospective for gold and lithium.
- The company has a market capitalization of A$6M which could easily transform into A$70M driven by:
  - Exploration success
  - Recognition of the value of the revised Preliminary Feasibility Study
  - Recognition of the additional value of mine life extensions
  - Derisking as Reward project is bought into production by Dec. 2024
- There is always the potential that exploration discovers a jewel box given this deposit has historically produced over 400koz at over 300g/t grade from only 40kt of ore from an area 200m strike and 150m deep worth A$1000M at todays gold price net of operating costs (Breakaway estimates).
- Pre-Feasibility Study based on mining 181kt at 9.3g/t generating A$42M in pre-tax cash flow and an after-tax Net Present Value of A$25M.
- Additional Inferred Resources of 278kt @17.3g/t for 155koz and the Fosters Exploration Target of 534kt @ 12.5-19koz for 211-320koz could add 8 yrs life.
- The Red Hill Resource is 1.5Mt @1.7g/t for 80koz. Hargraves is 2.3Mt @ 2.4g/t for 178koz. Recent exploration drilling delivered very positive intersections.
- Cash at 31 December 2023 was A$0.55M and a placement in February 2024 raised A$0.8M of which A$0.68M was to purchase processing plant.
- Drivers of share price appreciation are expected to be:
  - Drilling of Reward Inferred, Reward extensions at depth
  - Drilling at Fosters and South Star
  - Announcement of debt component of project financing

Our valuation range is A$0.12/sh to A$0.81/sh with a central or base case valuation of A$0.435/sh. These valuations are after allowing for the dilution of raising A$10M to fund the equity component of the Reward project, with the Base Case assuming an issue price of 10cps and a gold price of A$3000/oz. The valuation range is driven more by volume and issue price assumptions rather than gold price sensitivity.

Hence, Breakaway Research has a BUY recommendation on Vertex Minerals with a price target of A$0.40/share.

Company Overview & Investment Case

Significant news momentum underlining progress to production by the end of 2024

Vertex plans to be in gold production by December 2024 from the Reward project. 2024 is building into a year of very strong news flow. Releases so far include:

- 3 January 2024 - Reward Gold Project Preliminary Feasibility Study (pre-production capital A$28.5M for 120ktpa ore processing plant producing 49.9koz gold over two years at an All In Sustaining Cost of A$1712/oz with first mined ore to plant in December 2024).
- 2 February 2024 - Purchase of processing plant and placement, saving A$4-5M of pre-production capital, shortening plant construction timeline by six months, and creating the opportunity to process existing surface stockpiles.
- 26 February 2024 – Revised Reward Project Preliminary Feasibility Study detailed below.

The news flow for the remainder of the year is heavily dependent on securing funding for the pre-production capital for the Reward Project of around A$25M and additional funding for exploration. The current news flow includes:

- Drilling of the Fosters Exploration Target (524kt at 12.5-19g/t for 211-320koz) and the South Star lodes close to Reward.
- Project debt and equity funding in place.
- Underground development starting.
- Announcements of project milestones.
- Addition of surface stockpiles to the Preliminary Feasibility Study mine plan.

The project is fully approved for mining and gravity processing (no cyanide required) and the existing tailings storage area is sufficient to cover the planned production.

Investment proposition: Adding Reserves and funding into production

TABLE 1 VALUATION RANGE SHOWING IMPACT OF ADDING VOLUME, FUNDING DILUTION AND GOLD PRICE

A$M post tax value	PFS	+Stockpile	+Fosters	+Hargraves
Reward	20.2	24.8	75.0	75.0
Hargraves	0.0	0.0	0.0	40.4
Exploration	0.0	0.0	0.0	0.0
Corporate Overhead	-2.6	-2.6	-5.1	-5.1
Cash on hand	10.9	10.9	10.9	10.9
Debt	0.0	0.0	0.0	0.0
Net Working Capital	0.1	0.1	0.1	0.1
Valuation A$M	28.6	33.3	81.0	121.4
Valuation A$/sh				
Issue price A$/sh				
0.06	0.12	0.14	0.35	0.52
0.08	0.15	0.17	0.42	0.63
0.10	0.17	0.20	0.49	0.73
0.12	0.19	0.22	0.54	0.81
Gold Price A$/oz (Issue 10cps)				
+A$200/oz	0.032	0.034	0.086	0.130

Source: Breakaway estimates

The Reward Project value increases as additional resources are added (from Stockpile, Fosters) while Hargraves is a separate mine sending ore to an expanded processing plant at Reward (Amalgamated).

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The Reward project provides over 100% upside on issue price

The 26 February 2024 revised Preliminary Feasibility Study provides a base valuation at A$3000/oz gold price for the company of A$0.12/sh to A$0.19/sh depending on the issue price of a major issue of A$10M to fund an aggressive exploration campaign and provide working capital for the development of the Reward project.

The project provides over 100% upside at any of the issue prices in the table and opens the way for additional Reserve growth from stockpiles, Fosters, Hargraves and from Reward extension and Inferred Resource conversion. The last two sources has not been included in our valuation specifically.

The real upside is from Reserve addition from clearly identifiable potential sources driving a valuation range of A$0.12/sh to A$0.81/sh and our base case valuation of A$0.435/sh. The per share valuation is sensitive to the dilution that might result from any share issuance to fund the Reward project development.

Funding Options

Our financial model has assumed that Vertex raises A$10M in equity at A$0.10/sh and borrows A$20M. The company has indicated that it will consider a wide number of funding options.

The cash generated after the pre-production capital is spent amounts to A$67.7M pre tax and A$55M post tax at a gold price of A$3000/oz. The post tax cash flow is 2.8x the initial debt.

The company would also consider prepaid offtake, where a buyer pays cash in advance to secure all or part of the output. At A$3000/oz gold price, FY26 plus FY27 generates A$150M in revenue and A$67M in pre-tax cash flow so a prepayment of A$20M would be that same as a loan that is drawn early in FY25 with repayments amortised over two years starting FY26 .

Both funding pathways would require the organisation providing the funding to have faith in the plan and the management, and if a debt or pre-payment deal were announced, it would be a considerable positive for the share price because it would represent both a funding solution and a vote of confidence in the project.

There are funding options not indicated by the company including joint venturing with a mining contractor. While this option could be on the table, it is not ideal for a company with a lot of upside potential from exploration that could materially change both the project and the company's ability to self-fund it.

Equity is very expensive capital for Vertex at its current size

The reality for Vertex at the current share price of A$0.08/sh is that the cost of equity is too expensive to raise A$10M.

The value of the Reward Project after tax alone is around A$19.4M or A$0.253/sh before dilution. At A$0.08/sh, the market is saying that existing shareholders will end up with 31% of the project after dilution (ie 8cps/25.3cps) which is not an unreasonable assumption on the PFS value alone.

If the Reward project can be funded by debt alone, then it makes sense to proceed in the near term. We estimate that if the existing stockpiles are added to the project, the debt requirement would be around A$20M. If equity is required, it is better to explore first and looks for exploration driven share price appreciation.

Expensive equity should be spent on exploration

What is clear from Table 1 is that the valuation is far more sensitive to adding Reserves than it is to gold price or dilution. The upside from converting the Fosters Exploration Target of 524kt at 12.5g/t to 19g/t grade into a Reserve of 400kt at 9g/t grade is A$50M in after tax value on Breakaway estimates. The value addition is grade sensitive, but we believe we have been appropriately conservative.

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Exploration of the Reward Deeps below the existing mine plan could have a similar valuation impact either instead of or in addition to Fosters.

If the existing shareholders still thought they would only retain 30% of the uplifted value of A$75M for Reward plus Foster, that would be worth A$23M on the existing 76.7M shares or A$0.30/sh, and equity would be less expensive and funding the construction of the Reward project using part equity would become a serious option.

Exposure to drilling will provide opportunity to discover a jewel box

While investors shouldn't price it in, the Hill End geology might contain another region like the historical lodes that generated over A$1000M in value at current prices from an area of 200m by 150m, and discovery of another enriched zone like that is always a possible outcome of any drilling.

Our base case Valuation A$0.435/sh

TABLE 2 BASE CASE VALUATION WITH FOSTERS AND HARGRAVES UPSIDE INCLUDED ON A RISK ADJUSTED BASIS

All asset valued after tax	A$M	A$/sh	A$M	A$/sh
Reward+Stockpiles	24.8	0.149	24.8	0.141
Fosters Risked 50%	0.0	0.000	25.1	0.142
Hargraves Risked 50%	0.0	0.000	20.2	0.114
Exploration	0.0	0.000	0.0	0.000
Corporate Overhead	-2.6	-0.016	-5.1	-0.029
Cash on hand	10.9	0.065	11.7	0.066
Debt	0.0	0.000	0.0	0.000
Net Working Capital	0.1	0.001	0.1	0.001
Valuation A$M	33.3	0.199	76.9	0.435
Issued Shares M post 10cps issue		176.73		176.73

Source: Breakaway estimates

Discussing valuation in more detail

Discount rate of 10%pa could be conservative

The gold sector appears to follow its own rules when selecting discount rates. This may be because gold bullion is regarded a money or a store of wealth rather than a commodity. In our experience, projects at a Preliminary Feasibility Stage have annual cash flows discounted at 15%pa, Feasibility Study Stage at 10%pa and gold mines with visible production cash flows are discounted at 5%pa.

10%pa has been used for the Reward project, but Vertex has eliminated almost all the plant construction and permitting risk, and underground workings already exist providing some access to the planned production areas. There is an argument that the discount rate should be closer to 5% than 10%.

Stockpile will add to Preliminary Feasibility Study cash flow in first year

Vertex has not included the Stockpiled ore on surface in the Preliminary Feasibility Study because it has not been delineated to an appropriate standard. However, the company believes that it will have access to around 50kt and it is assuming a 1.7g/t grade based on the average grade of stockpiled material processed so far which ran at an average of 2g/t.

In the table above, we assume that it is processed for the same cost as the ore in the Preliminary Feasibility Study and at the same recovery.

At A$3000/oz, the stockpile generates A$5-6M depending on grade and more at the current higher gold price.

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TABLE 3 STOCKPILE CASH FLOW ADDS OVER $5M IN PRETAX CASH FLOW IN FIRST YEAR

	PFS Grade	High Grade
Ore kt	50	50
Gold Grade g/t	1.7	2.0
Contained koz	2.7	3.2
Recovery	92%	92%
Recovered Gold koz	2.5	3.0
Financials		
Revenue A$M	7.5	8.9
NSW State Royalty 4% A$M	-0.3	-0.4
Operating Expense A$M	-2.0	-2.0
Sustaining Capital A$M	0.0	0.0
Pre-Prodn Mining Capital A$M	0.0	0.0
Other Pre-Prodn Capital A$M	0.0	0.0
Pre Tax Cash Flow A$M	5.2	6.5

Source: Volumes and grade Preliminary Feasibility Study page 24 in text below Figure 14

Because it is available to immediately feed the processing plant, it generates cash concurrent with the underground development and could be used to fund that development, reducing the funding requirement for the Reward Project overall.

FIGURE 1 EXISTING SURFACE STOCKPILES

Source: VTX release 21 February 2023

Reward Preliminary Feasibility Study Revision of 26 February 2024

The table below summarises the life of mine and annual cash flows in the 26 February PFS revision.

The first year is almost entirely a development period, during which a considerable inventory of underground development in advance and of mined ore is built up ahead of processing and sale. We take comfort that this is a properly worked schedule and does not commit the mistake of starting the processing plant with inadequate inventory, which has been the core source of problems for many junior underground operators.

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To the extend that the plant can be started earlier or run harder, the maximum cash draw for ore inventory of A$6.5M in FY1 and A$4.1M in FY2 can be reduced generating less up front funding demand (FY1) and stronger cash flow for debt retirement (FY2).

TABLE 4 SUMMARY OF KEY VOLOME AND FINANCIAL NUMBERS IN REVISED PRELIMINARY FEASIBILITY STUDY

	Total	Year 1	Year 2	Year 3
Mining & Unit Costs				
Capital Expenditure A$M	20.4	14.7	4.7	1
Operating Expenditure A$M	62.1	8.1	34.1	19.9
Total A$M	82.5	22.8	38.8	20.9
Development A$M	50.2	21.2	19.7	9.3
Production A$M	32.2	1.6	19.1	11.5
Total	82.5	22.8	38.8	20.9
Development A$/metre	8241	9248	7208	8724
Stoping Cost A$/tonne ore mined	261	198	245	309
Average Mining Cost A$/t processed	342	406	309	389
Ave Processing Cost A$/t processed	33.77	33.77	33.77	33.77
Tailings Cost A$/t processed	6.65	6.65	6.65	6.65
Cost Summary				
Mining Cost A$M	82.5	22.8	38.8	20.9
Inventory Movement A$M	-0.2	-6.5	-4.1	11.6
Mining Capitalised A$M	-14.7	-13.4	-0.6	-1.8
Mining Expensed A$M	67.7	2.8	34.1	30.7
Processing &Tailings A$M	7.3	0.2	3.9	3.3
Cost Expensed A$M	75.0	3.0	38.0	34.0
Volumes				
Capital Development metres	3037	2065	688	282
Operating Development metres	3794	807	2123	863
Stope Ore kt	123.7	8.2	78.1	37.4
Development Ore kt	57.8	11.8	32.2	13.8
Total ore Mined kt	181.5	20.0	110.3	51.1
Total Processed kt	181.0	4.0	97.0	81.0
Ore Mined Grade g/t	9.29	8.02	9.37	9.62
Ore Processed Grade g/t	9.3	6.8	8.4	10.5
Gold in ore mined koz	54.2	5.2	33.2	15.8
Gold in ore processed koz	54.0	0.8	26.3	27.3
Recovery	92.0%	92.0%	92.0%	92.0%
Gold Recovered koz	50.1	0.7	24.2	25.2
Financial Summary				
Gold Price A$oz	3000	3000	3000	3000
Revenue A$M	150.3	2.1	72.6	75.5
NSW State Royalty 4% A$M	-6.0	-0.1	-2.9	-3.0
Operating Expense A$M	-75.0	-3.0	-38.0	-34.0
Sustaining Capital A$M	-10.0	-2.0	-6.0	-3.0
Pre-Prodn Mining Capital A$M	-13.6	-13.6		
Other Pre-Prodn Capital A$M	-3.4	-3.4		
Pre Tax Cash Flow A$M	42.3	-20.0	25.7	35.5

Source: from Preliminary Feasibility Study released on 26 February 2024 - Mining volumes Table 12, Other pre-production capital Table 16, mining capital and operating costs Table 17, Tailings cost Table 18, processing volumes and financial summary Table 19.

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TABLE 5 SUMMARY OF RESERVES RESOURCES EXPLORATION TARGET

	kt	g/t	koz
Reward Gold Mine			
Probable Reserve	130.7	9.74	40.9
Mining Inventory	50.8	8.14	13.3
Preliminary Feasibility Study Mine Plan	181.5	9.29	54.2
Conversion Indicated to Probable	92.7%	62.8%	57.7%
Conversion Inferred to Inventory	18.3%	47.1%	8.6%
Indicated Resource	141	15.5	71
Inferred Resource	278	17.3	155
Total	419	16.8	226
Red Hill			
Indicated Resource	413	1.4	19
Inferred Resource	1063	1.8	61
Total	1476	1.7	80
Hargraves			
Indicated Resource	1109	2.7	97
Inferred Resource	1210	2.1	80
Total	2319	2.4	177
Total Resource			
Indicated Resource	1663	3.5	187
Inferred Resource	2551	3.6	296
Total	4214	3.6	483
Fosters Exploration Target			
High	524	19.0	320
Low	524	12.5	211
Conversion			
High	92%	60%	
Low	80%	50%	
Mine Plan			
High	482	11.4	177
Low	419	6.3	84

Sources: PFS release 3 January 2024, Reward Resource release 21 June 2023, Fosters Exploration target release 29 August 2023, Red Hill ASX:PUA release 30 November 2015, Hargraves ASX:PUA release 29 May 2020.

The Resources have been presented in one table so investors can get a sense of the upside to the 2024 Preliminary Feasibility Study. That study appears to be very soundly constructed, with full cost estimation, and no attempt to promote an undercapitalised mine plan that generally ends in tears.

The sources of additional ore that could provide valuation upside, in order of ease of conversion and ease of development are:

- Reward Inferred Resources have only 8.6% of ounces converting into the mine plan due to the lack of drilling. This points to the conservative nature of the mine plan. If the conversion rate was similar to that of Indicated to Probable, this might add another 70koz.
- Fosters Exploration Target already has drilling otherwise it would not have a quantifed target. Vertex noted in the Preliminary Feasibility Study release (p49) that the target "could be converted to Indicated (Resource) by limited, cost effective, underground diamond drilling." Using similar conversion factors as in the PFS, the target could generate 84-177koz.

While these additional ounces are speculative, there is potential that the 54.2koz recovered in ore mined in the Preliminary Feasibility Study could be supplemented by another 150koz ore more points to the serious upside to the mine plan than could result from additional drilling.

The question is whether this drilling should be done before the mine starts production. The answer to the debate lies in the fact that almost all the drilling is most cost effectively done from underground, which requires underground access, and to lowest cost way to generate underground development is in conjunction with an existing operating mine, where miners are already on site.

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Fosters Exploration target adds A$50M in after tax value

We have used the Fosters target as an upside case because it has a published Exploration Target, but the most likely source of additional ore initially could be from Reward Inferred Resource conversion and Reward depth extension.

The Fosters Exploration Target is 525kt at 12.5g/t to 19g/t which is adjusted to a Mine Plan of 400kt at 9g/t using the same conversion and dilution ratios visible in the Reward conversion of Resource into Mine Plan (Table 5).

The financial assumptions are summarised in the table below. We have also included a capital spend of A$5M in the June 2027 year for initial access development not shown in Table 6.

TABLE 6 SUMMARY OF BREAKAWAY FOSTERS FINANCIAL MODEL

	Jun-27	Jun-28	Jun-29	Jun-30	Jun-31
Capital Development m	2065	688	282	0	0
Operating Development m	800	2200	2200	2200	800
Mine Production Kt	20	100	100	100	80
Grade g/t Au	9.0	9.0	9.0	9.0	9.0
Contained Gold Koz	5.79	28.94	28.94	28.94	23.15
Ore Processed Kt	20	100	100	100	80
Grade g/t Au	9.0	9.0	9.0	9.0	9.0
Contained Gold Koz	5.788	28.939	28.939	28.939	23.151
Gold Recovery	92.0%	92.0%	92.0%	92.0%	92.0%
Recovered Gold Koz	5.325	26.624	26.624	26.624	21.299
Operating Unit Costs					
Capital Development A$/m	8000	8000	8000	8000	8000
Operating Development A$/m	8000	8000	8000	8000	8000
Production A$/t	200	200	200	200	200
Processing A$/t ore processed	40.42	40.42	40.42	40.42	40.42
Admin A$/t ore processed	0.00	0.00	0.00	0.00	0.00
Costs					
Capital Development A$M	16.52	5.50	2.26	0.00	0.00
Operating Development A$M	6.40	17.60	17.60	17.60	6.40
Production Cost $M	4.00	20.00	20.00	20.00	16.00
Mine Operating Cost A$M	10.40	37.60	37.60	37.60	22.40
Less Inventory	0.00	0.00	0.00	0.00	0.00
Processing	0.81	4.04	4.04	4.04	3.23
Total	11.21	41.64	41.64	41.64	25.63
All In Sustaining Cost A$/oz	2105	1564	1564	1564	1204

Source: Unit costs in line with those used in the Reward Study, volumes are Breakaway estimates with development metreage based on the tonnes per metre used in Reward. The unit costs differ from the unit costs published in the Preliminary Study, but are consistent with the Study's development costs in A$M divided by development in metres, and production costs in A$M divided by production tonnes.

Hargraves adds A$40M to valuation on an unrisked basis

The Hargraves Project is located approximately 35 km north of Hill End Project and is approximately 20 km southwest of Mudgee and approximately 250 km from Sydney. The Hargraves Project comprises a granted exploration licence (EL 6996) (the "Hargrave Tenement") which cover a total area of ~18km2 in the highly prospective Eastern Lachlan Fold Belt in NSW.

Historically, Hargraves has been planned as an open cut, but has good potential to be a very high grade underground, in which case it would be developed as an underground trucking to the existing Reward/Amalgamated processing plant.

Our valuation is based on the 2014 open pit economics, not as an underground.

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TABLE 7 SUMMARY OF 2014 PRELIMINARY FEASIBILITY STUDY INCLUDING ESTIMATED UPDATED COSTS

	Unit Cost	A$M	A$/oz	Unit Cost	A$M	A$/oz
Revenue		132.9	1450		274.9	3000
Mining A$/t moved	1.5	21.6	236	4	57.6	629
Grade Control A$/t ore	0.5	0.6	7	1	1.2	13
Processing A$/t ore	40	48.0	524	60	72.0	786
Admin A$/t	6	7.2	79	8	9.6	105
Royalty	4%	5.3	58	4%	11.0	120
Cash Cost		82.7	903			
Sustaining Capital		13.0			25.0	273
AISC Cost		95.7			176.4	1925
Cash Flow (pre tax)		37.2			98.5	
Per Company		40.0	>900			
	Waste kt	Strip Ratio	Ore kt	grade g/t	Recovery	Gold koz
Volumes	13200	11	1200	2.5	95%	91.6

Source: Hill End Gold ASX:PUA activities statement June 2015, Breakaway estimates

A Preliminary Feasibility Study was completed in 2014 (Source: Hill End Gold ASX:PUA June 2015 quarterly activities statement). Hill End Gold proposed to develop the Big Nugget Hill Deposit to recover 1.2 Mt with an average grade of 2.5 g/t gold. The production estimate includes approximately 20% inferred resource blocks and it is proposed to mine two initial open pits, the Central Pit and the South Pit for a combined production of 300,000 tonnes per year. The South Pit is planned to be approximately 70m deep and the Central Pit about 165m deep. There is excellent potential for resource extensions beyond the current pit optimisation design. Key parameters include:

- Initial production of ~100,000 ounces over four years at <A$900/oz cash cost
- Production rate 300,000 tonnes per year at 2.5g/t from two initial open pits
- 11:1 waste to ore stripping ratio at a pit design gold price of A$1,450/oz
- Gold recovery of 95% at a 150µ grind size
- Pre-development cost of A$2m and project capital of A$13m
- Net profit of ~A$40m after full cost recovery / royalty payments at A$1,600/oz
- Potential for Hargraves development extensions at same production rate

The Project can be developed at a relatively low capital cost, as liberation of gold from quartz veins requires only coarse grinding and can be recovered by low cost, simple gravity methods. The proposed gold recovery method is similar to that which was used at Hawkins Hill – Reward during trial mining.

Potential for bonanza discoveries

A$1000M produced from 200m by 150m of lode

Historical workings produced over 400koz at over 300g/t grade ie from only 40kt of ore from an area 200m strike and 150m deep. Today that Resource would be worth around A$1000M.

In exploration terms, this constitutes a very small target, and in terms of richness of endowment is highly unusual and therefore rare, so the chances that one or more such high grade zones remain to be found is probably low, and even if they exist, the chances of discovery are low.

That said, given the historical endowment, this in the environment in which such high grade would be found and Vertex has the geological information to maximise the chances of discovery. If you are not paying for it, this is an upside option that is very nice to own, given the step change in valuation that could result anytime from exploration of this deposit.

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Comparison with Fosterville

The premier high grade gold deposit in Australia is Fosterville in Victoria. In 2022 it produced 338koz at an All In Sustaining Cost of US$398/oz, It had a Reserve of 453koz at 23.2g/t and an expected mine life to 2031. Fosterville was the major asset of Kirkland Lake which was acquired by Agnico Eagle for US$11 billion in 2022.

Fosterville was a modest gold mine until it discovered high grade at depth.

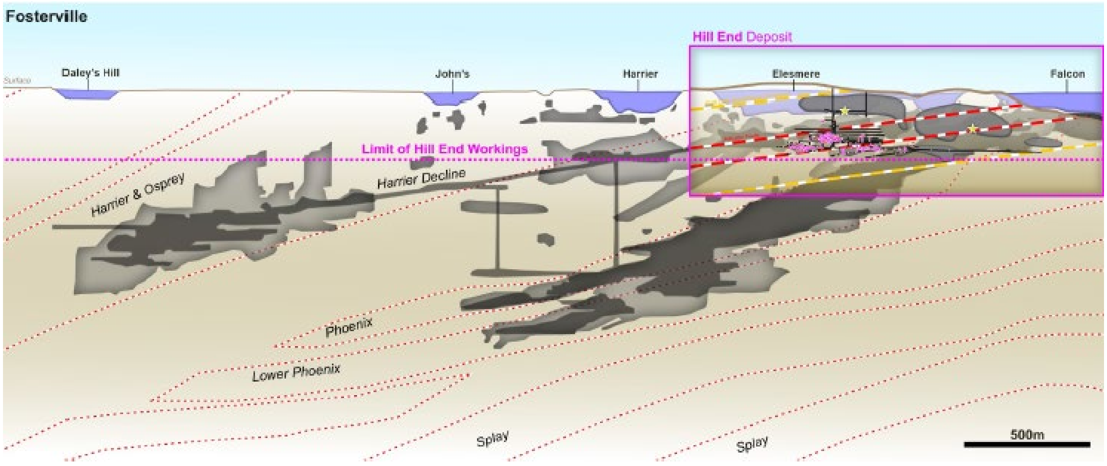
Similarities between Hill End and Fosterville include:

- Host turbidite sequence of sandstones, siltstone and shales/ black shales
- E-W compression faults produced early upright fold sets and late brittle faults
- Laminated quartz veins preferentially developed in shales. Usually bedding parallel and close, or on, sandstone contact
- Generally steeply west dipping reverse faults with a series of west dipping splay faults

The figure below shows the down plunge extend to Fosterville of 3.5km compared to the limited existing strike of Hawkins Hill/Reward in pink of around 0.5km. At Hill End the Red Hill deposit is 3km north of Hawkins Hill and is believed to be a part of the same system, providing evidence of significant down plunge prospectivity over a similar length as Fosterville.

Hill End has already demonstrated that it hosts extraordinary grades (450koz produced at 300g/t, and the grade of the Reward Resource is 18g/t. The question is whether Hill End will build into another Fosterville if the appropriate exploration effort is applied.

FIGURE 2 HILL END KNOWN WORKINGS VERY SMALL COMPARED TO FOSTERVILLE BUT COULD EXTEND TO SIMILAR LENGTH



Source: VTX presentation 14 June 2022

Other Exploration Projects not included in valuation

Taylor's Rock Nickel Project WA

The Taylor Rock Project is located 80km West-Southwest of Norseman in the Southern Goldfields region of Western Australia (WA). Maggie Hays Nickel Mine is located 50km NW of the Project. The Taylor Rock tenement is located on the very poorly explored far south eastern margin of the Archaean Lake Johnston greenstone belt. The Taylor Rock area was targeted on the basis of a distinct magnetic high, present adjacent to the interpreted Koolyanobbing Shear Zone on the eastern limb of the Mt Gordon Anticline.

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Drilling in 2012-2013 generally produced 4-10m intersections at 0.6% nickel close to surface, with the best intersection being LJPA0145: 3m @ 9.84g/t Au from 42m, including 1m @45.4g/t Au from 44m.

Recent lithium exploration success has been achieved just 12km west of Vertex's tenement where TG Metals Limited have confirmed the lithium potential of the Lake Johnson district.

Charger Metals has also had significant success at both their Medcalf Prospect 30km southeast and their Mt Day Prospect, 8km to the southwest of Vertex's tenement

These lithium discoveries, together with an internal review, have prompted Vertex to undertake a soils program across its 100% owned Lake Johnston, Taylor Rock tenement E63/2058.

Pride of Elvire Gold Project WA

The Pride of Elvire Tenement surround the Mt. Elvire homestead approximately 210km north of Southern Cross in WA. The Mt. Elvire Homestead is located approximately 100km north of the Mt. Dimer Gold Mine. The Pride of Elvire Project comprises one exploration licence (E 77/2651) (the "Pride of Elvire Tenement"), which cover a total area of ~51km2 (17 graticular blocks) in the Mt. Elvire greenstone belt of WA. The Pride of Elvire area is relatively under-explored, and a large portion of the tenement contains greenstone. Only a limited amount of gold and iron ore exploration has been conducted, An Independent Geologist Report was completed in the past, principally aimed at discovering BIF hosted gold mineralisation similar to that at Mt. Magnet, Bullfinch and Nevoria, which noted the following intersections:

- ME 30: 10m @ 23.2g/t Au from 17m
- ME 22: 2.5m @ 9.29g/t Au from 0m
- ME 21: 2.1m @ 1.77g/t Au from 0m

Capital and Shareholder Structure

Capital Structure

TABLE 8 SHARE STRUCTURE

	Total
Ordinary Shares	76.733
Options	
17 July 2026 at 25cps	13.342
7 January 2025 at 30cps	4.000
Total	17.342
Performance Rights	3.150
Fully Diluted	97.225

Source: VTX release 14 February 2024

Shareholder Structure

At 5 September 2023 the top 20 shareholders owned 45.0% and substantial shareholders were:

1. Ross Di Bartilo with 6.7M shares (13.76%)
2. Timothy Needham with 2.79M shares (5.73%)

At 28 February 2024, the directors owned 2.91M shares (3.79%)

Vertex was spun out of Peak Minerals on 12 January 2022 so the bulk of the shareholders were Peak minerals shareholders. Since then, exiting Peak holders have depressed the share price. The rise in the share price from 8cps to 16cps appeared to signal the end of that selling, but selling reappeared in January 2024 post the announcement of the Preliminary Feasibility Study probably fearing a large issue to fund development.

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Board and Management

Mr Roger Jackson - Executive Chairman (appointed 1 June 2021)

Mr Roger Jackson has been actively involved in the mining industry for over 30 years as a mine operator, services contractor and explorer. He is a qualified geologist with a strong knowledge of gold exploration and mining. Mr Jackson was a founding director of privately owned Central Gold Mines and Bracken Resources, which refurbished and re-started the Georgetown and Hillgrove gold plants. He was also the founding director of Hellyer Gold Mines and driver behind the recommissioning of the Hellyer polymetallic concentrator.

He is a long-standing Member of the Australian Institute of Company Directors, Member of the Australian institute of Geoscientists, Fellow of the Geological Society of London and Fellow of the Australasian Institute of Mining and Metallurgists. Mr Jackson is currently a director of Ark Mines Limited (ASX:AHK) since 2010, QX Resources (ASX:QXR) since 2020. Mr Jackson was previously a director of Pan Asia Metals (ASX:PAM) from October 2020 to June 2022 and a director of NQ Minerals PLC from 2016 to May 2021.

Mr Jackson holds interest in 1,122,000 shares 87,500 options and 1,500,000 performance rights.

Tully Richards - Technical Director (appointed 1 June 2021)

Mr Richards is an experienced copper / gold geologist based in Orange, NSW. For the last 10 years, Tully has operated his own geological consulting business (Central West Scientific Pty Ltd) focused on NSW and in particular the Lachlan Fold belt. Tully has a wonderful depth and breadth of experience in exploration in the Lachlan Fold district. A graduate in geology from Sydney University in 1993, initially he worked with Hargraves Resources on the Browns Creek mine and associated tenements, followed by four years in Western Australia from 1996-99 mining nickel and gold with Western Mining Corp. then Lion Ore.

Mr Richards then worked for Newcrest Mining at Cadia Valley until 2005 before working for two years with Rangott Mineral Exploration to 2007. Since that time, Tully has also held the Exploration Manager position with Gold and Copper Resources.

Mr Richards holds an interest in 866,667 shares 108.334 options and 1,050,000 performance rights.

Declan Franzmann -Non-Executive Director (appointed 1 June 2021)

Mr Franzmann is a mining engineer with over 29 years of experience ranging from exploration programs, feasibility and other technical studies, mine construction and mine management through to mine closure. His experience includes open pit and underground metalliferous mining across Australia, Asia, Africa and South America. Most recently, Declan was VP of Operations for Black Mountain Metals Pty Ltd. He has also held positions as President, Chief Executive Officer & Director at African Gold Group, Inc, listed on the TSX (May 2014-June 2017), and has been a director of Lachlan Star Ltd (ASX:LSA) from 2007 to 2018. Declan is a Fellow of the AusIMM and holds statutory mine management qualifications for Western Australia, Queensland and New South Wales.

Mr Franzmann holds an interest in 920,000 shares 115,000 options and 1,050,000 rights.

Alex Neuling – Company Secretary (appointed 1 June 2021)

Mr Neuling is a Chartered Accountant and chartered company secretary with over 20 years corporate and financial experience, including 10 years as company secretary, CFO &/or a Director of various ASX listed companies in the Oil & Gas, Mineral Exploration, Biotech Mining Services sectors. Prior to these roles, Mr Neuling worked at Deloitte in London and in Perth. Mr Neuling is currently a non-executive director of PetroNor E&P Limited (listed on Oslo Axess:PNOR) (from April 2020).

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Analyst Verification

I, **Michael Harrowell**, as the Research Analyst, hereby certify that the views expressed in this research accurately reflect our personal views about the subject securities or issuers and no part of analyst compensation is directly or indirectly related to the inclusion of specific recommendations or views in this research.

Disclosure

Breakaway Research Pty Ltd (AFSL 503622) and its associates, or consultants may receive corporate advisory fees, consultancy fees and commissions on sale and purchase of the shares of ***Vertex Minerals Limited*** and may hold direct and indirect shares in the company. It has also received a commission on the preparation of this research note.

We acknowledge that Senior Resource Analyst, **Michael Harrowell**, holds 70,000 VTX shares and 61,148 VTXOA options in **Vertex Minerals Limited**.

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