ASX Release



12 September 2023

Presentation to investors at North American Conferences

Attached is a presentation by Mr Andrew Strelein, Managing Director & CEO, to investors this week at the Precious Metals Summit Beaver Creek and next week at the Gold Forum Americas.

Authorised by

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Investor Presentation

Andrew Strelein, Managing Director & CEO September 2023

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Financial figures are in Australian dollars unless otherwise noted. Financial year is 1 July to 30 June. This presentation is not audited.

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Disclaimer

JORC Code

It is a requirement of the ASX Listing Rules that the reporting of (amongst other things) exploration results and mineral resources in Australia comply with the 2012 edition of the Joint Ore Reserves Committee's Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (**JORC Code**). Investors outside Australia should note that while mineral resource estimates of St Barbara in this Presentation comply with the JORC Code (such JORC Code mineral resources being **Mineral Resources**), they may not comply with the relevant guidelines in other countries and, in particular, do not comply with (i) National Instrument 43-101 (Standards of Disclosure for Mineral Projects) of the Canadian Securities Administrators (the **Canadian NI 43-101 Standards**); or (ii) Item 1300 of Regulation SK, which governs disclosures of mineral reserves in registration statements filed with the SEC. Information contained in this Presentation describing mineral deposits may not be comparable to similar information made public by companies subject to the reporting and disclosure requirements of Canadian or US securities laws. You should not assume that quantities reported as "resources" will be converted to reserves under the JORC Code or any other reporting regime or that St Barbara will be able to legally and economically extract them.

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The information in this Presentation that relates to St Barbara's Mineral Resources or Ore Reserves has been extracted from St Barbara's ASX announcement entitled "Ore Reserves and Mineral Resources Statements as at 31 December 2022" released to the ASX on 22 February 2023 and from the 'Notice of Extraordinary General Meeting and Explanatory Booklet' related to the ASX on 18 May 2023 (the **Original Reports**) and available to view at www.stbarbara.com.au and www.asx.com.au, and for which Competent Persons' consents were obtained. St Barbara confirms that it is not aware of any new information or data that materially affects the information included in the Original Reports and that all material assumptions and technical parameters underpinning the Mineral Resources and Ore Reserves estimates in the Original Reports continue to apply and have not materially changed. St Barbara confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the Original Reports and that each Competent Person's consent remains in place for subsequent releases by St Barbara of the same information in the same form and context, until the consent is withdrawn or replaced by a subsequent report and accompany consent.

Exploration Results

The information in this presentation that relates to Exploration Results is based on information compiled by Dr Roger Mustard, who is a Member of The Australasian Institute of Mining and Metallurgy. Dr Mustard is a full-time employee of St Barbara and has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Dr Mustard consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

Acknowledgement of Country

We at St Barbara acknowledge the First Nations people of the ancestral lands on which we operate in Australia, Canada and Papua New Guinea. We pay our respects to all First Nations people, and to Elders past, present, and emerging.



Corporate Overview



Corporate Overview

Corporate Structure

Shares on issue (ASX: SBM) 817.9M

Performance rights 7.6M

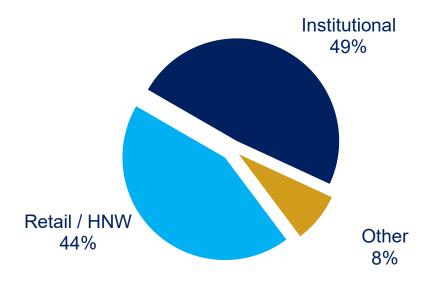
Share price¹ \$0.19

Market capitalisation¹ \$151M

Cash² \$239M

Debt

Shareholders³



Substantial shareholders⁴

Baker Steel 8.6%

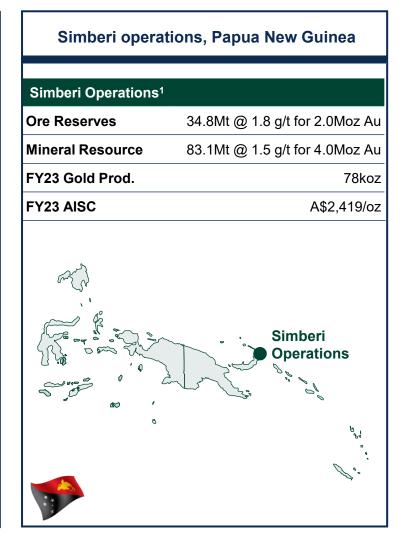
BlackRock Group 6.1%



^{1.} Based on closing share price on 11 September 2023; 2. Cash position as at 31 August 2023, including \$47M restricted cash for Atlantic rehabilitation bond; 3 Shareholders as at 16 August; and 4. Substantial shareholders as at 11 September

The St Barbara Asset Portfolio

Atlantic operations, Nova Scotia Atlantic Operations¹ Ore Reserves 46.0Mt @ 1.0 g/t for 1.5Moz Au Mineral Resource 57.0Mt @ 1.1 g/t for 1.9Moz Au FY23 Gold Prod. 44koz **FY23 AISC** A\$2,244/oz **Atlantic Operations**



Investment portfolio	
Assets	
Cash ²	\$239M
Listed investments ³	
Catalyst (ASX:CYL), 12.7m shares	\$7M
Kin (ASX:KIN), 158.1m shares	\$6M
Peel (ASX:PEX), 41.5m shares	\$5M
Unlisted investments	
Linden Gold Alliance (N/A), 22.5m share	s
Exploration portfolio	
Back Creek (NSW)	
Pinjin Joint Venture (WA)	
Royalty portfolio	
A portfolio of royalty interests of mining a assets predominately in WA	and exploratio

^{1.} Refer to ASX release on 24 August 2023 titled "FY23 Financial Report and Appendix 4E"; 2. Cash position as at 31 August 2023, including \$47M restricted cash for Atlantic rehabilitation bond; 3. Based on ASX closing prices as at 11 September 2023.

Investment portfolio

Listed equity investments¹

- Catalyst (ASX:CYL), 12.7m shares (\$7M)
- Kin (ASX:KIN), 158.1m shares (\$6M)
- Peel (ASX:PEX), 41.5m shares (\$5M)

Unlisted equity investments

Linden (unlisted), 22.5m shares

Royalty portfolio

- ~20 mineral royalties majority in Western Australia
- Considered non-core and in advanced stage discussions on divestment for cash





Atlantic Operations



Atlantic Operations

Overview

- 1.9Moz in Mineral Resources / 1.5Moz in Ore Reserves
- Located north-east of Halifax, Nova Scotia, Canada
- Touquoy plant is a conventional carbon in leach circuit with 2.8Mtpa capacity





Strategy Focus Areas	Status
Prioritise development of Fifteen Mile Stream and target development in FY26	Commenced
Investigate the repurposing of the Touquoy plant for use at Fifteen Mile Stream	Commenced
Complete processing of stockpiles at Touquoy by late September 2023	In progress
Pause permitting process for Beaver Dam	Completed
Continue exploration at Cochrane Hill, Goldboro East and South-West	South-West underway



Fifteen Mile Stream Project

Standalone project planned utilising the Touquoy plant

Fifteen Mile Stream (FMS) is ~40km east-northeast of Touquoy, with Beaver Dam mid-way between Touquoy and FMS

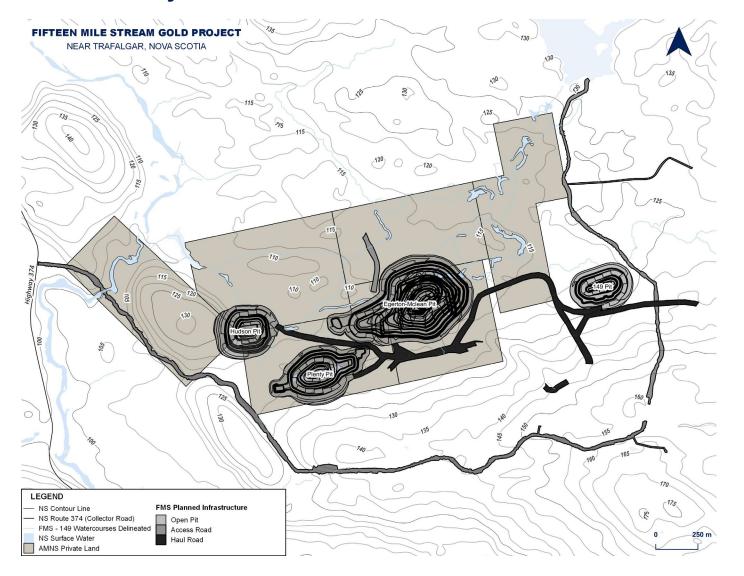


- FMS to comprise up to four open pits, with low strip ratios
- Design targeting 10-year mine life and 60kozpa gold production
- FMS to be designed as standalone 1.7 to 1.8 Mtpa processing facility utilising relocated Touquoy plant
- Previous testwork indicates a significant gold recovery improvement for whole ore leach processing vs previous plan to produce a gold concentrate
- Updated Mineral Resources and Ore Reserves due in November 2023
- New permitting submissions will be made once the revised project design is sufficiently advanced



Fifteen Mile Stream – Open Pit Layout

Updated project design, capital and operating cost estimates to Prefeasibility level due November 2023



- Touquoy plant is small footprint facility. Other site infrastructure is being completely redesigned for small disturbance (and cost)
- Open pit sequencing and lowgrade stockpiling strategies substantially changed to simplify mine plan and reduce disturbance and cost of low-grade stockpiles and waste rock dump area



Fifteen Mile Stream – Mineral Resources

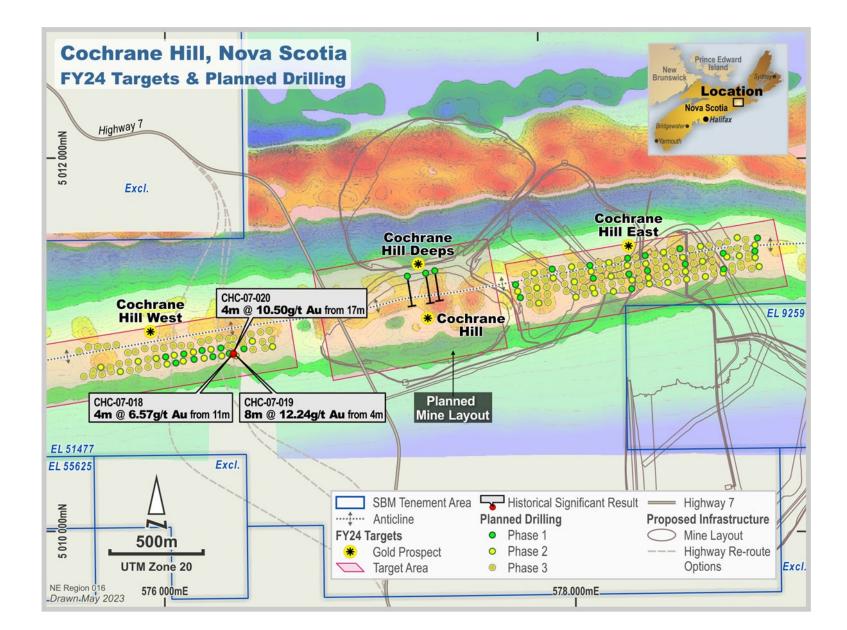
	Measured			Indicated				Inferred		Total		
Deposit	Tonnes (000's)	Grade (g/t Au)	Ounces (000's)									
Egerton-MacLean	1,082	0.8	26	1,613	0.6	33	697	8.0	17	3,392	0.7	77
Hudson	3,704	1.2	137	12,395	1.1	422	1,875	1.1	64	17,974	1.1	623
Plenty	1,519	1.1	52	747	0.9	22	22	1.2	8	2,288	1.1	82
Total	6,305	1.1	215	14,755	1.0	477	2,594	1.1	89	23,654	1.0	781

Fifteen Mile Stream – Ore Reserves and Strip Ratios

		Proved			Probable			Total		Strip Ratio
Deposit	Tonnes (000's)	Grade (g/t Au)	Ounces (000's)	Tonnes (000's)	Grade (g/t Au)	Ounces (000's)	Tonnes (000's)	Grade (g/t Au)	Ounces (000's)	waste:ore
Egerton-MacLean	3,590	1.1	132	9,800	1.1	346	13,390	1.1	478	2.0
Hudson	730	0.9	20	850	0.7	18	1,580	0.7	38	2.4
Plenty	1,260	1.1	44	530	1.0	17	1,790	1.1	61	4.8
Total	5,580	1.1	196	11,180	1.1	381	16,760	1.1	577	2.3



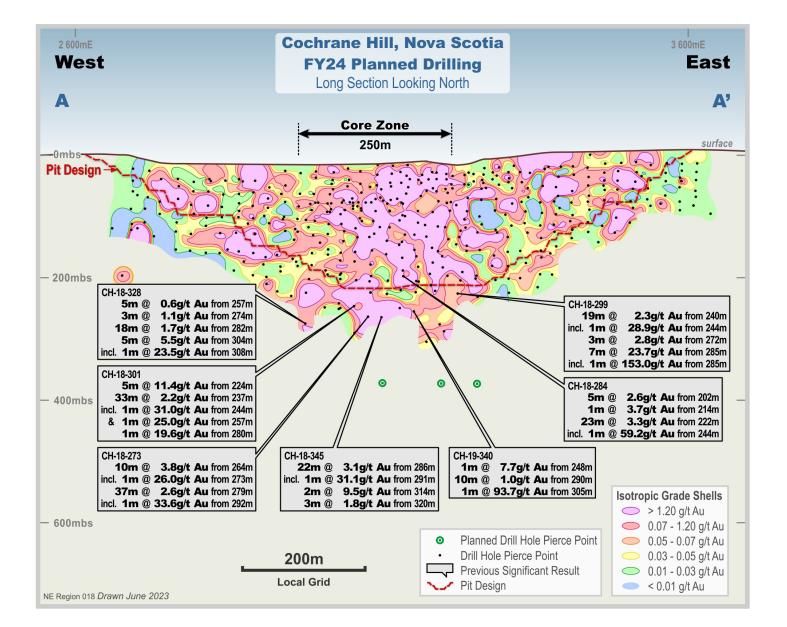
Atlantic Exploration – Cochrane Hill



- An initial diamond drill program comprising 25 holes for 2,500m is planned to test prospective stratigraphy along strike East and West of the Cochrane Hill Deposit
- Significant intercepts at Cochrane Hill West requiring follow-up drilling include:
- CHC-07-019: 8m @ 12.24 g/t Au from 4m
- CHC-07-020: 4m @ 10.5 g/t Au from 17m
- <u>CHC-07-018</u>: 4m @ 6.57 g/t Au from 11m
- The program will also assist with potential sterilisation for locating operations infrastructure
- Cochrane Hill Deeps planned to be drilled to test down plunge of the deposit



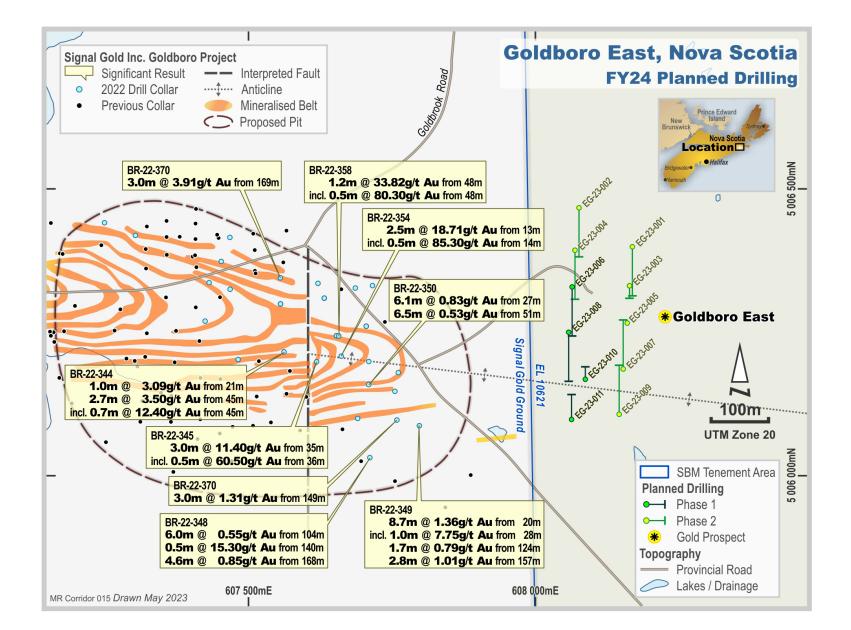
Atlantic Exploration – Cochrane Hill Deeps



- 3 diamond drill holes for 1,500m planned to test down plunge of the deposit
- Deeper drill intercepts located below the current pit optimisation includes:
 - CH-18-299: 7m @ 23.7 g/t Au from 285m
 - <u>CH-18-273</u>: 10m @ 3.8 g/t Au from 264m
 - CH-18-345: 22m @ 3.1 g/t Au from 286m



Atlantic Exploration – Goldboro East



- An initial diamond drill program comprising 4 holes for 800m has been designed to test the Goldboro East target
- The drilling is designed to test for shallow eastern extensions to Signal Gold's Goldboro deposit (a ~3.0 Moz Au Open Pit and Underground NI 43-101 Resource)



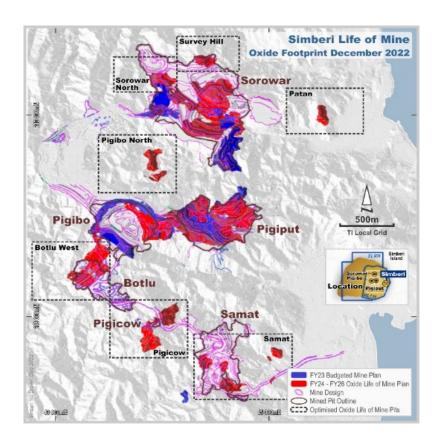
Simberi Operations



Simberi Operations

Overview

- 4.0Moz in Mineral Resources
- 2.0Moz in Ore Reserves
- Northernmost island in the Tabar group of islands in the New Ireland Province, Papua New Guinea
- Open cut mine with a 3.5Mtpa plant (oxides)

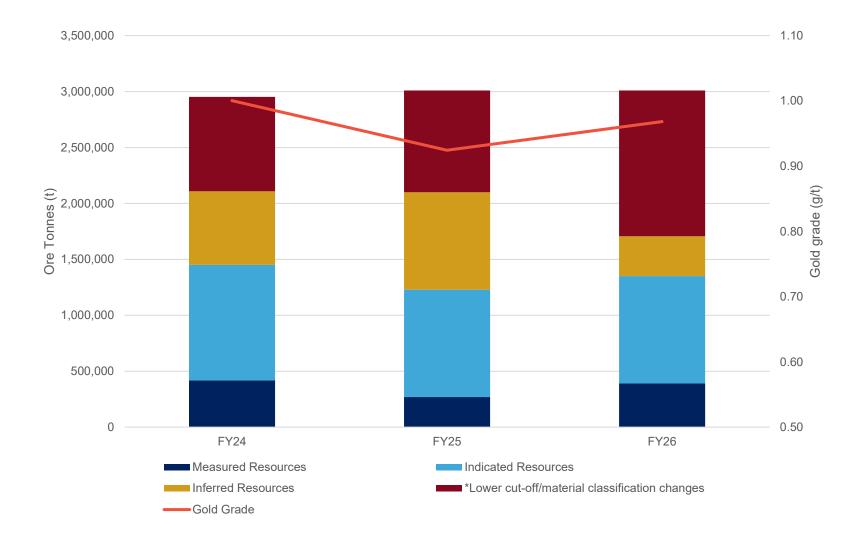


Strategy Focus Areas	Status
Extend oxide production through FY25 and into FY26	Complete
Sulphide Mineral Resource and Ore Reserve extension drilling	Commenced
Revisit Sulphide Expansion development plan by FY26	Commenced
Prepare for investment decision with Mining Lease renewal by FY28	FY25 activity



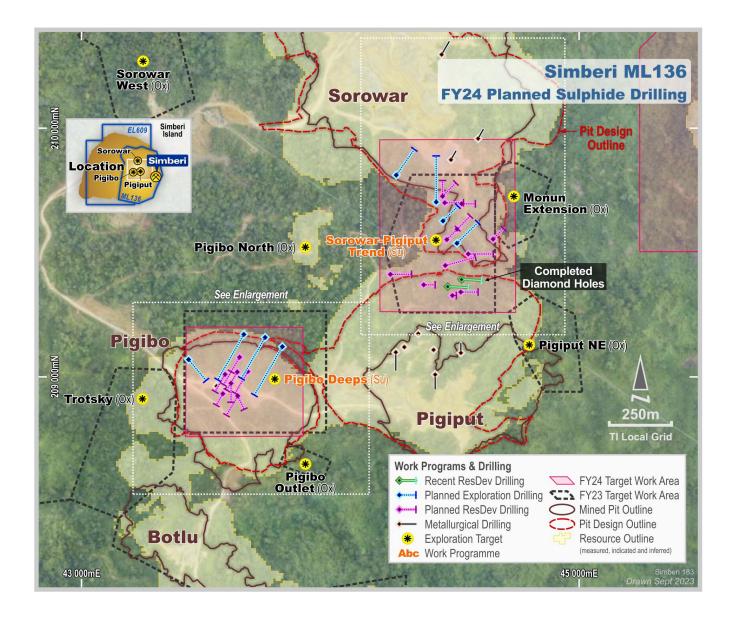


Simberi – current mine schedule extended out for FY24 to FY26





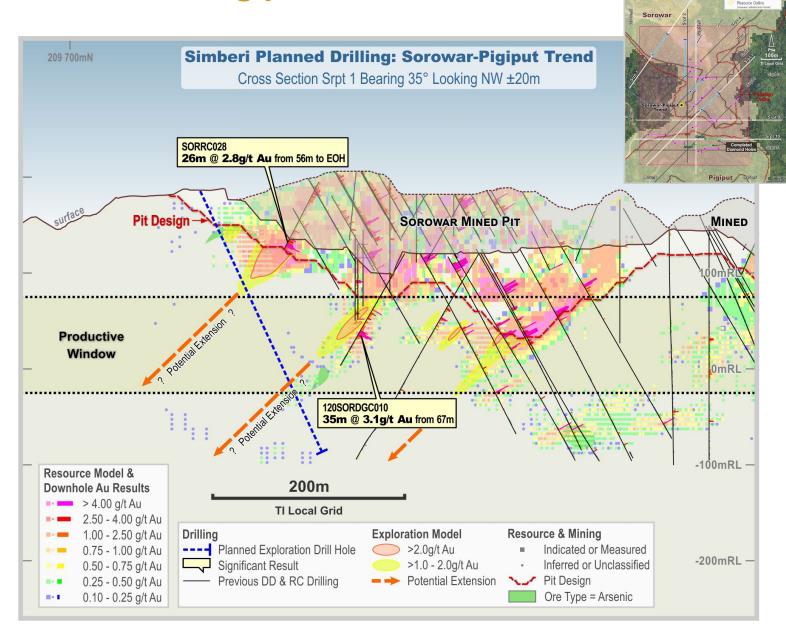
Simberi – Expansion Exploration Targets



- Detailed 3D modelling of sulphide mineralisation on ML136 has been completed targeting below and in between the Sorowar and Pigiput deposits as well as below Pigibo deposit
- A diamond drill program comprising 32 holes for 7,200m was designed to further evaluate the sulphide potential
- Includes 24 resource definition (purple) and 8 exploration (blue) holes testing mineralization outside current pit designs
- Drilling commenced in mid-August with 2 holes completed for 320m
- A metallurgical diamond drill program comprising 11 holes for 1,500m commenced in early September



Sorowar – Pigiput Trend



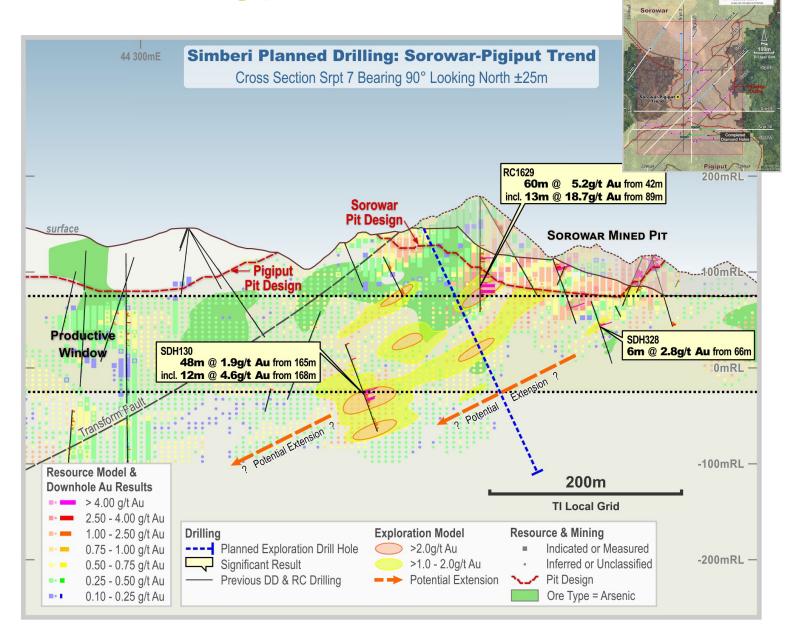
 Sorowar Cross Section looking Northwest

Simberi - Sorowar-Pigiput Trend

- Gold and multielement geochemical studies highlight that the best developed and highest grade gold on the mine lease generally occurs in a "Productive Window" located between -25m RL and +75m RL
- Drilling is targeting down dip of high-grade intercepts that extend outside of pit design



Sorowar - Pigiput Trend



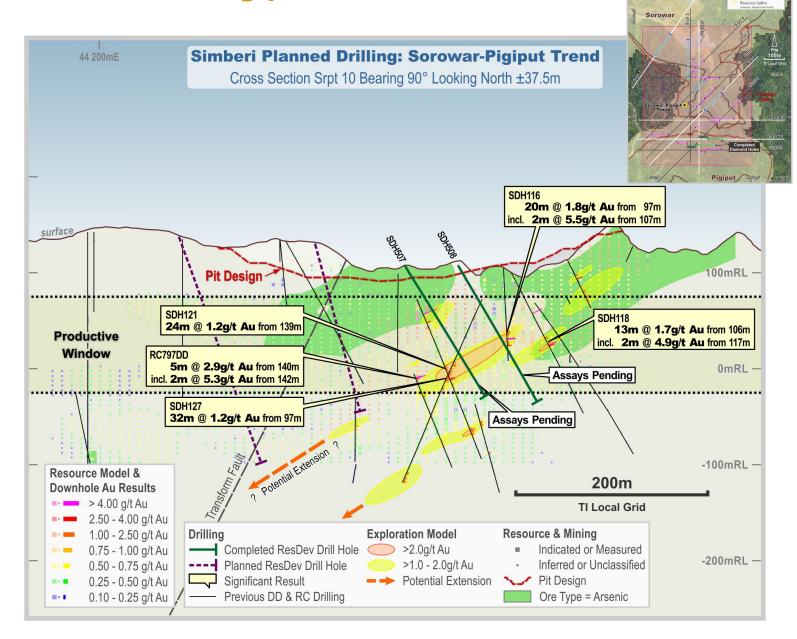
 Southern Sorowar Cross Section looking North

Simberi - Sorowar-Pigiput Trend

- Gold and multielement geochemical studies highlight that the best developed and highest grade gold on the mine lease generally occurs in a "Productive Window" located between -25m RL and +75m RL
- Drilling is targeting down dip of high-grade intercepts and upgrading inferred resources



Sorowar – Pigiput Trend

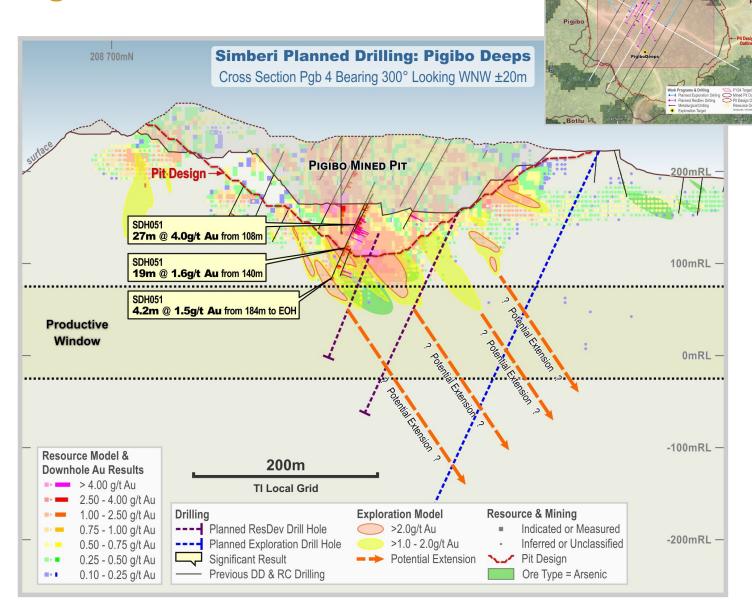


- Southern Sorowar Cross Section looking North
- Drilling commenced in mid-August with 2 holes completed for 320m
- Assay results are pending

Simberi - Sorowar-Pigiput Trend



Pigibo Extensions



 Pigibo Cross Section looking Northwest

Simberi - Pigibo Deeps

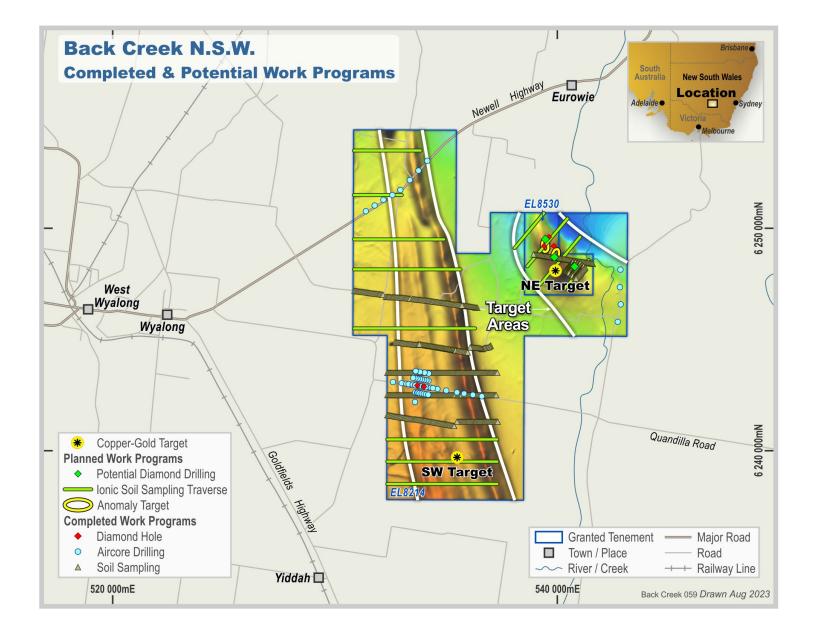
- The Pigibo pit is currently constrained by the limit of drilling information
- Drilling is targeting down dip of high-grade intercepts



Australian Exploration

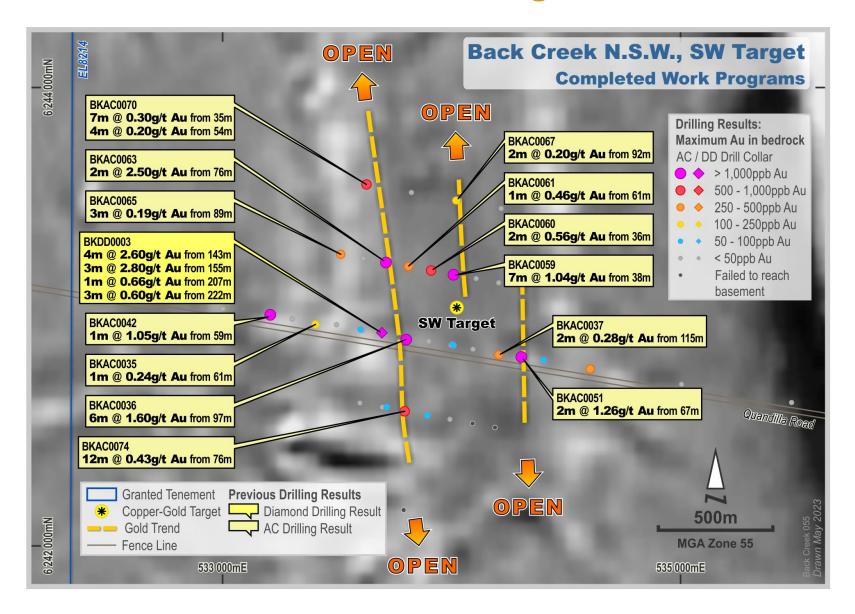


Back Creek – following up encouraging results



- EL8214 and EL8530 were recently renewed for 5 year terms
- Soil sampling, aircore and diamond drilling programs are planned to advance the two main targets
- Exploration is targeting porphyry copper-gold mineralisation in the east and mesothermal gold to the west
- A 643 sample ionic soil program has been completed with further work (n=827) planned
- Aircore drilling at SW target and diamond drilling at NE target is planned for Q3 FY24
- Limited diamond drilling at the NE target previously returned:
 - BKDD001: 45m @ 0.13% Cu from 113m, 41m @ 0.22 % Cu from 232m and 31m @ 0.13 % Cu from 314m

Back Creek South – West Targets



- Limited aircore and diamond drilling at the SW target testing a 1km strike length
- Best results include:
 - BKAC0036: 6 m @ 1.60 g/t Au from 97 m, including 1 m @ 5.16 g/t Au from 100 m
 - BKAC0059: 7 m @ 1.04 g/t Au from 38 m, including 1 m @ 3.37 g/t Au from 39 m
 - BKAC0063: 2 m @ 2.5 g/t Au from 76 m, including 1 m @ 4.77 g/t Au from 76 m
 - BKDD0003: 2 m @ 4.82 g/t Au from 145 m and 3 m @ 2.82 g/t Au from 155 m including 1m @ 6.81 g/t Au from 157 m
- Mineralisation is open along strike and down dip
- Only 1 km of a 15 km prospective trend has been tested with encouraging early results



Supplementary slides



APPENDIX A – St Barbara Ore Reserves

		Proved			Probable			Total	
Deposit	Tonnes (000's)	Grade (g/t Au)	Ounces (000's)	Tonnes (000's)	Grade (g/t Au)	Ounces (000's)	Tonnes (000's)	Grade (g/t Au)	Ounces (000's)
Touquoy	250	0.7	6	320	0.6	7	570	0.7	13
Beaver Dam	4,340	1.4	195	3,490	1.3	150	7,840	1.4	345
Fifteen Mile Stream	5,580	1.1	196	11,180	1.1	381	16,760	1.1	577
Cochrane Hill	10,250	1.1	356	5,130	1.0	158	15,380	1.0	514
Atlantic Stockpiles	5,420	0.5	80	-	-	-	5,420	0.5	80
Total Atlantic Operations	25,840	1.0	833	20,120	1.1	696	45,970	1.0	1,529
Simberi Oxide	2,091	1.3	86	5,488	1.1	194	7,579	1.2	280
Simberi Sulphide	2,161	1.8	122	24,396	2.0	1,558	26,557	2.0	1,680
Simberi Stockpile	-	-	-	710	1.3	31	710	1.3	31
Total Simberi Operations	4,252	1.5	208	30,594	1.8	1,783	34,846	1.8	1,991
Group Total	30,092	1.1	1,041	50,714	1.5	2,479	80,816	1.4	3,520

Note: St Barbara Group's Ore Reserve estimates are as at 31 December 2022, extracted from the report titled 'Ore Reserves and Mineral Resources Statements as at 31 December 2022' released to the ASX on 22 February 2023.



^{1.} Ore Reserves are based on a gold price of: Atlantic Gold (C\$1,875/oz for Touquoy, C\$1,948/oz for Beaver Dam and C\$1,688/oz for Fifteen Mile Stream & Cochrane Hill) and Simberi (US\$1,500/oz)

^{2.} Cut-off Grades Atlantic Mining (0.3 g/t Au – 0.4 g/t Au), Simberi Oxide (0.4 g/t Au).

^{3.} Rounding may result in apparent summation differences between tonnes, grade and contained metal.

APPENDIX B – St Barbara Mineral Resources

	Measured				Indicated			Inferred		Total			
Deposit	Tonnes (000's)	Grade (g/t Au)	Ounces (000's)										
Touquoy	-	-	-	1,249	0.6	23	100	0.5	1	1,349	0.6	24	
Beaver Dam	5,126	1.3	210	4,757	1.2	185	1,177	1.4	52	11,060	1.3	447	
Fifteen Mile Stream	6,305	1.1	215	14,755	1.0	477	2,594	1.1	89	23,654	1.0	781	
Cochrane Hill	10,704	1.1	375	7,700	1.0	236	2,557	1.0	79	20,961	1.0	690	
Total Atlantic Operations	22,135	1.1	800	28,461	1.0	922	6,428	1.1	221	57,024	1.1	1,942	
Simberi Oxide	2,501	1.3	106	8,207	1.0	275	4,866	1.0	160	15,575	1.1	541	
Simberi Sulphide	2,704	1.5	133	46,116	1.6	2,417	18,705	1.5	884	67,524	1.6	3,434	
Total Simberi Operations	5,205	1.4	239	54,323	1.5	2,692	23,571	1.4	1,044	83,099	1.5	3,975	
Group Total	27,340	1.2	1,039	82,784	1.4	3,614	29,999	1.3	1,265	140,123	1.3	5,917	

Note: Mineral Resources are reported inclusive of Ore Reserves, extracted from the report titled 'Ore Reserves and Mineral Resources Statements as at 31 December 2022' released to the ASX on 22 February 2023.

^{2.} Atlantic Mineral Resources are reported constrained by a C\$2,338/oz pit shell. Simberi Mineral Resources are reported constrained by a US\$1,875/oz pit shell.





^{1.} Cut-off Grades Atlantic Operations (0.3 g/t Au); Simberi Oxide (0.4 g/t Au); and Simberi Sulphide (0.6 g/t Au).

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