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### **SEPTEMBER 10-13, 2024**



# SOUTHERN CROSS

# Sunday Creek – Victorian Goldfields An Expanding and Significant Global Gold Discovery

10 - 13 September 2024





### **Important Notice and Disclaimer**

#### Overview

This presentation ("this Presentation") has been prepared by Southern Cross Gold Ltd [ACN 652166795] ("SXG" or the "Company") and is dated 9 September 2024.

#### Summary information

This Presentation contains summary information about the current and proposed activities of SXG as at the date of this Presentation. The information in this Presentation is of a general nature and does not purport to be complete. This Presentation does not purport to contain all the information that an investor should consider when making an investment decision nor does it contain all the information which would be required in a disclosure document or prospectus prepared in accordance with the requirements of the Corporations Act. It should be read in conjunction with the Company's other periodic and continuous disclosure announcements lodged with the ASX, which are available at the ASX website www.asx.com.au under the code "SXG". Neither SXG nor its directors, employees or advisers accept any responsibility to inform recipients specifically of any matter arising or coming to its attention after the date of this Presentation. Recipients should monitor SXG's announcements to ASX, which can be obtained from ASX website as referred to above.

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### **Important Notice and Disclaimer**

**Competent Persons Statement** 

Information in this presentation is based on information compiled by Michael Hudson, a Fellow of the Australasian Institute of Mining and Metallurgy. He is MD for Southern Cross Gold Ltd. He has sufficient experience which is relevant to the style of mineralisation and types of deposits under consideration and to the activity being 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 (the JORC Code). Michael Hudson has consented to the inclusion in this report of the matters based on this information in the form and context in which it appears.

Certain information in this announcement that relates to prior exploration results is extracted from the Independent Geologist's Report dated 16 March 2022 which was issued with the consent of the Competent Person, Mr Terry C. Lees. The report is included the Company's prospectus dated 17 March 2022 which was released as an announcement to ASX on 12 May 2022 and is available at www2.asx.com.au under code "SXG". The Company confirms that it is not aware of any new information or data that materially affects the information related to exploration results included in the original market announcement. The Company confirms that the form and context of the Competent Persons' findings in relation to the report have not been materially modified from the original market announcement.

Information in this presentation relates to the Exploration Target for the Sunday Creek Project is based on information compiled by Mr Kenneth Bush and Mr Michael Hudson. Mr Bush is a Member of Australian Institute of Geoscientists and Mr Hudson is a Fellow of The Australasian Institute of Mining and Metallurgy. Mr Bush and Mr Hudson each have sufficient experience relevant to the style of mineralisation and type of deposit under consideration, and to the activities undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Bush is Exploration Manager and Mr Hudson is Managing Director of Southern Cross Gold Limited and both consent to the inclusion in the report of the matters based on their information in the form and context in which it appears.

The Company confirms that it is not aware of any new information or data that materially affects the information included in the original document/announcement and the Company confirms that the form and context in which the Competent Person's findings are presented have not materially modified from the original market announcement.

Certain information in this announcement also relates to prior exploration results, are extracted from the following announcements, which are available to view on www.southerncrossgold.com.au:

9 August, 2022 <u>SDDSC038</u>, 4 October, 2022 <u>SDDSC046</u>, 20 October, 2022 <u>SDDSC049</u>, 21 November, 2022 <u>SDDSC050</u>, 14 December, 2022 <u>SDDSC050</u>, 28 February, 2023 <u>SDDSC055</u>, 29 August, 2023 <u>SDDSC068</u>, <u>5 September, 2023 SDDSC077B</u>, <u>12 October, 2023 SDDLV003 & 4</u>, <u>23 October, 2023 SDDSC082</u>, 9 November, 2023 <u>SDDSC091</u>, 30 November, 2023 <u>SDDSC086 & 90</u>, <u>14 December, 2023 SDDSC092</u>, 5 March, 2024 <u>SDDSC107</u>, <u>15 April, 2024 SDDSC110 & 113, 13 June, 2024 SDDSC118</u>, 19 August, 2024 <u>SDDSC122/122W</u>



# Aim to Create the Highest Margin Gold Business Globally

#### **Exceptional Hit Rate**

Sunday Creek compares favorably with global leading hit rates for this stage of the project's development

#### 45 individual intersections >100 AuEq g/t x m

131 drill holes for 58.5 km drilling reported to date

50 vein sets wireframed within main drill area

#### 3 Clear Objectives

Drilling plan has three clear objectives that will have the largest emphasis over the next six months







Demonstrate



#### 5 diamond drill rigs operating at site

Aim to increase capacity with additional rig per quarter, 60 km drilling planned over the next year

**News flow continuous** 



#### \$13.4 m (31 May '24) Fully funded and permitted

133.3 ha of freehold land. three properties





# Corporate Structure – A Tight Register



#### Capitalization Summary

Share Price (4 Sep 2024)	A\$2.90
Shares Issued	198.4M
Fully Diluted	215.0M
Basic Market Capitalisation	A\$575.5M
Cash (31 May 2024)	A\$13.4M

### ) Other Data

Options	Price	No. of Securities
JLM Options (Expiry 16 May 2025)	\$0.30	1.35M
Class A ESOP (Expiry 16 May 2025)	\$0.30	1.96M
Class B ESOP (Expiry 16 May 2026)	\$0.30	2.78M
Class C ESOP (Expiry 16 May 2027)	\$0.30	2.78M
Unlisted ESOP (Expiry 15 August 2026)	\$0.66	1.25M
Broker Options (Expiry 28 November 2025)	\$0.87	1.11M
Consultant Options (Expiry 23 October 2026)	\$1.20	1.50M
Director Options (Expiry 7 November 2026)	\$1.20	3.55M
Performance Rights (3-5 years)		0.28M

#### Major Shareholder Summary

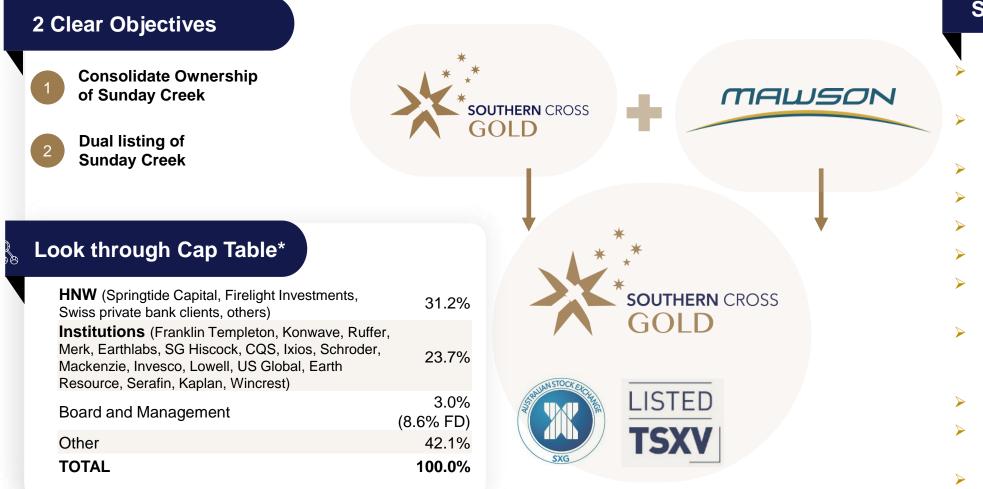
Mawson Gold Ltd	48.7%
Institutions & HNW (Franklin Templeton, Schroders, SG Hiscock, Konwave, Springtide Capital, Firelight Investments, Invesco, Earth Resource, Serafin, Kaplan, Wincrest, Sprott)	17.5%
Board and Management (non-look through)	1.5%
TOTAL	68.3%

#### Share Price Performance – 1 Year and Coverage



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# SXG Proposed Merger with Mawson and Dual Listing



#### Summary

- Simplify capital structure to reflect SXG structure
- Broader access to capital markets
- Institutional support
- Lower cost of capital
- Purchase 1:1 basis
- Tax rollover relief
- Southern Cross Gold Ltd name remains
- Experienced Australian Team remain (management and board)
- Shareholders to vote
- Mawson before merge only left with SXG shares
- Complete mid Nov 2024



# **Exploration and Mining History**

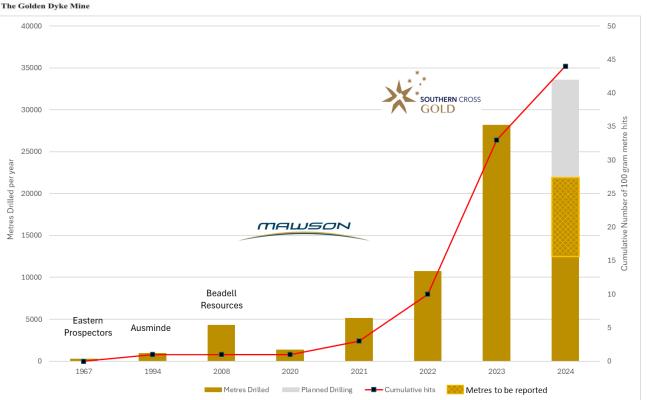
#### History

- 1850s Alluvial mining
- 1860s Surface mining to 30m
- 1880s Shaft mining to 100m, 1890s to 180m
- Early 1900s cyanide
- WW1 Open by Imperial munitions act antimony
- 1960s Eastern Prospectors few drill holes
- 1980s CRA/BHP
- 1986 mid 1990's, Ausminde 29 RC drill holes totalling 960 metres;
- 2008 Beadell Resources 30 RC holes with 7 diamond drill tails – oxide focus

#### Exploration

- Exploration has accelerated year-on-year
- 2021 was the first year with an individual +100 g/t Au assay interval
- 2023 included 28 individual Au assays +100 g/t Au and 6 individual Au assays +1,000 g/t Au.
- 2024 to date has 25 individual Au assays +100 g/t Au and 2 individual Au assays +1,000 g/t Au from 19 drillholes reported.







# Database Analysis: Grade vs Width

The best intersections on the project have been drilled recently

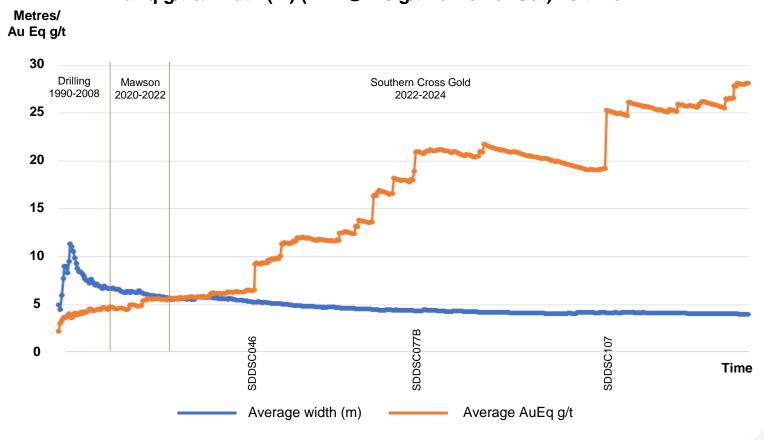
#### **Top 10 intersections at Sunday Creek**

Date`	Hole-ID	From (m)	To (m)	Length (m)	Au g/t	Sb%	AuEq g/t	AuEq g/t * m
5-Mar-24	SDDSC107	684.3	685.4	1.0	2,318.4	0.3	2,318.9	2,389
5-Sep-23	SDDSC77B	737.1	740.7	3.6	391.9	0.8	393.4	1424
9-Nov-23	SDDSC091	430.0	450.0	20.0	62.7	0.5	63.7	1274
14-Dec-23	SDDSC092	681.6	684.9	3.3	267.8	1.8	271.1	889
23-Oct-23	SDDSC082	417.4	419.0	1.6	500.3	0.1	500.5	801
13-Jun-24	SDDSC118	1120.4	1124.0	3.6	124.8	0.0	124.8	449
13-Jun-24	SDDSC118	555.7	556.4	0.7	604.0	0.0	604.0	441
23-Oct-23	SDDSC082	413.6	415.4	1.7	230.6	9.9	249.1	429
5-Mar-24	SDDSC107	566.9	576.0	9.1	39.1	0.6	40.2	368
4-Oct-22	SDDSC046	187.5	201.8	14.3	20.5	2.6	25.4	363



SDDSC107 from 684.7 m within assayed interval 1.0 m @ 2319 g/t AuEq (2318.4 g/t Au, 0.3 % Sb)

\*AuEqgtm variations due to rounding

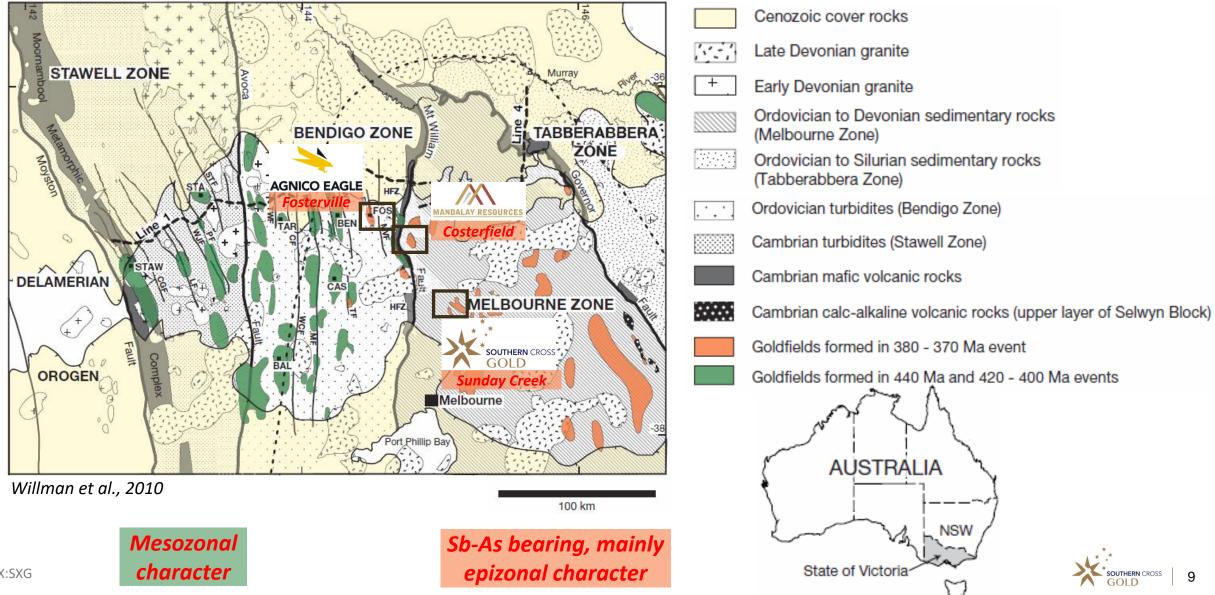


35,456 drill hole assay results All calculations 2 m @ 1 g/t Au lower cut, > 5g/t\*m AuEq



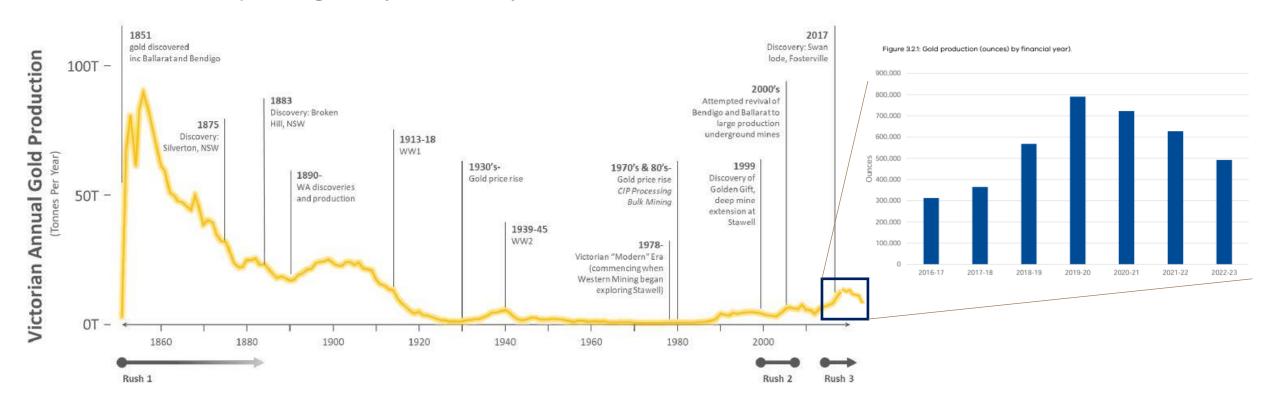
AuEq g/t & Width (m) (2 m @ 1.0 g/t Au Lower Cut) vs time

# **Regional Setting**



### Victorian Gold Production – Rocking Because of a Change in Geology

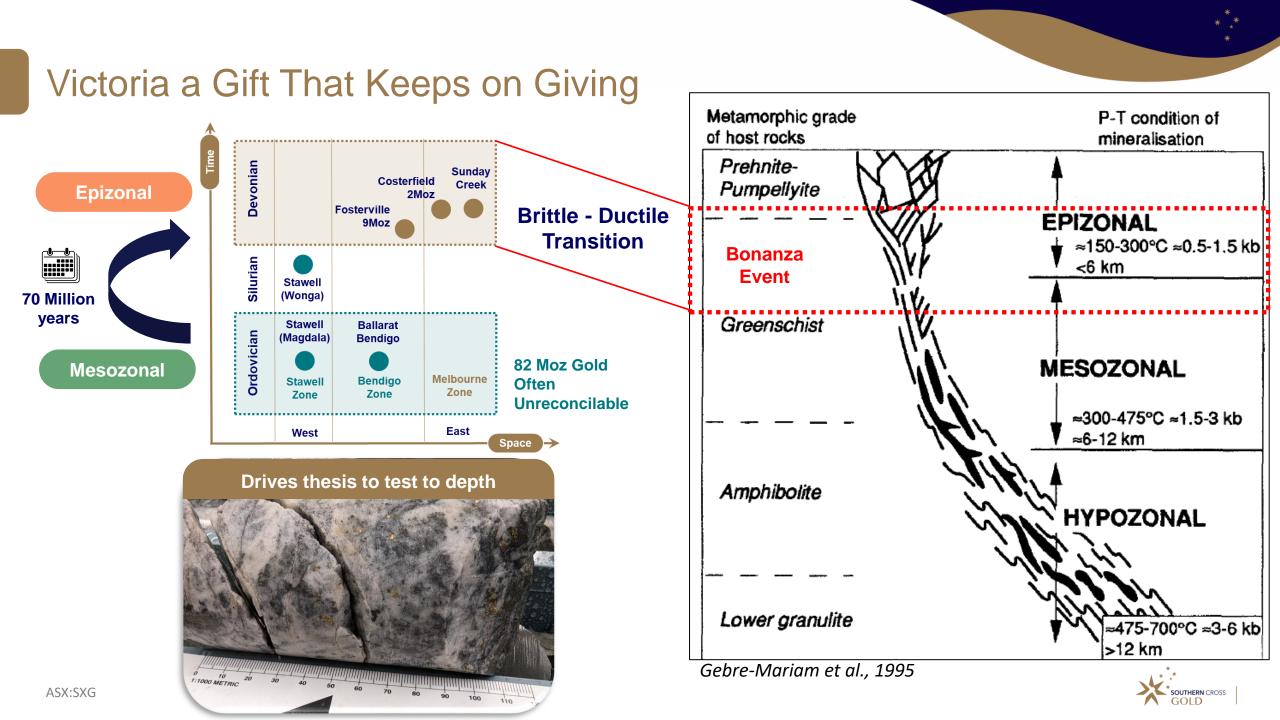
✓ Today, Victoria is producing more gold than it has for 100 years
 ✓ 5 Gold Mines Operating Today – 500Koz/yr





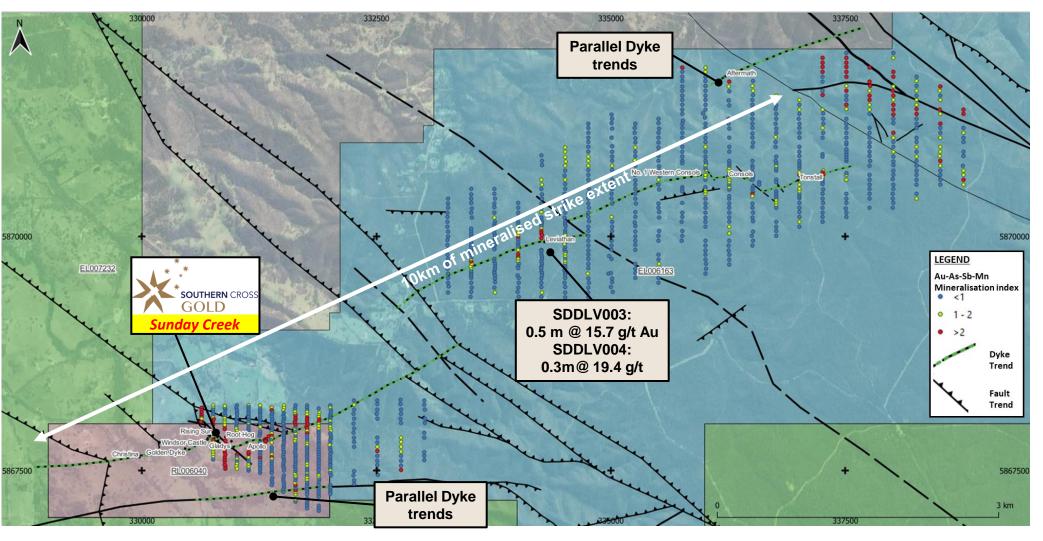
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https://www.theassay.com/articles/analysis/victorias-three-gold-rushes/ https://resources.vic.gov.au/\_\_data/assets/pdf\_file/0012/996870/Earth-Resources-Regulation-Statistical-Report-2022-23.pdf



# **Regional Trends**

- Clear geochemical anomalies can be identified from a combined trace element additive index using Au, As, Sb and Mn.
- Parallel dyke trends identified in outcrop and historic mining occurrences.





# Schematic Plan View Main Drill Area – The Golden Ladder



Ladder rails extend over 10km of strike. Core area drilled over 1km

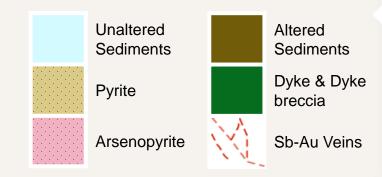


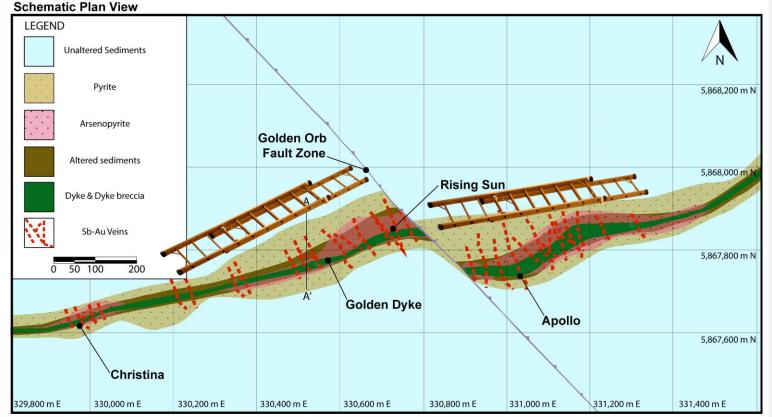
"Rungs" extend from surface to 1km depth, Each "rung" 20-100m long, Apollo av. width 3.8m (median 3.4m), Rising Sun av. width 2.7m (median 2.3m), max 10.9m



50 "rungs" identified to date

Continuity informed by structural data, geostats (CV<2), geological likeness, predictability and 50 yr mining





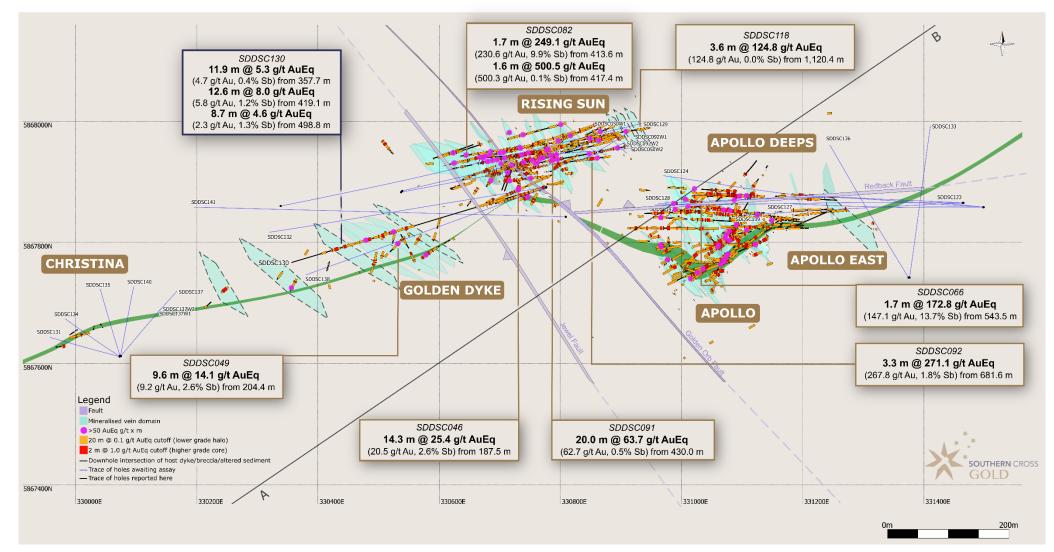


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#### ASX:SXG

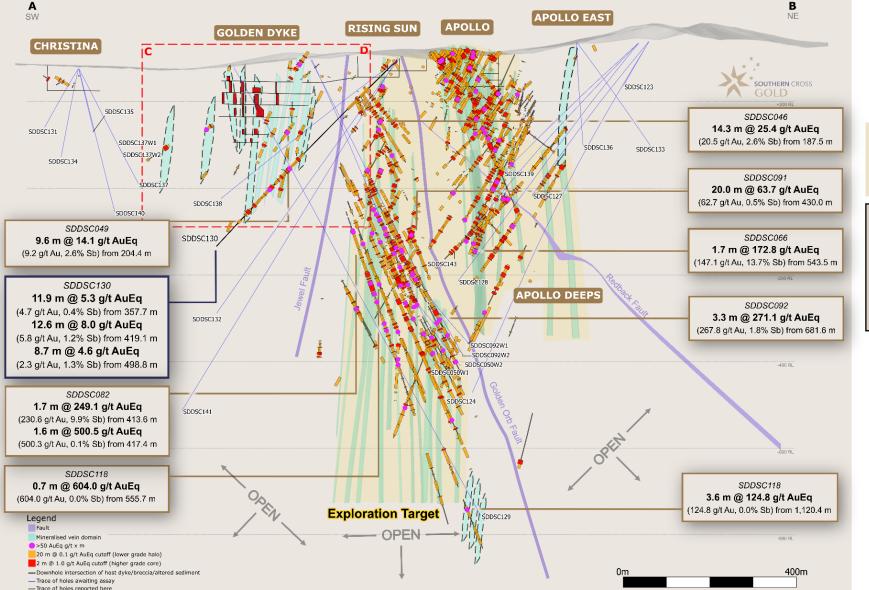


# Plan View Main Drill Area





# Long Section View Main Drill Area



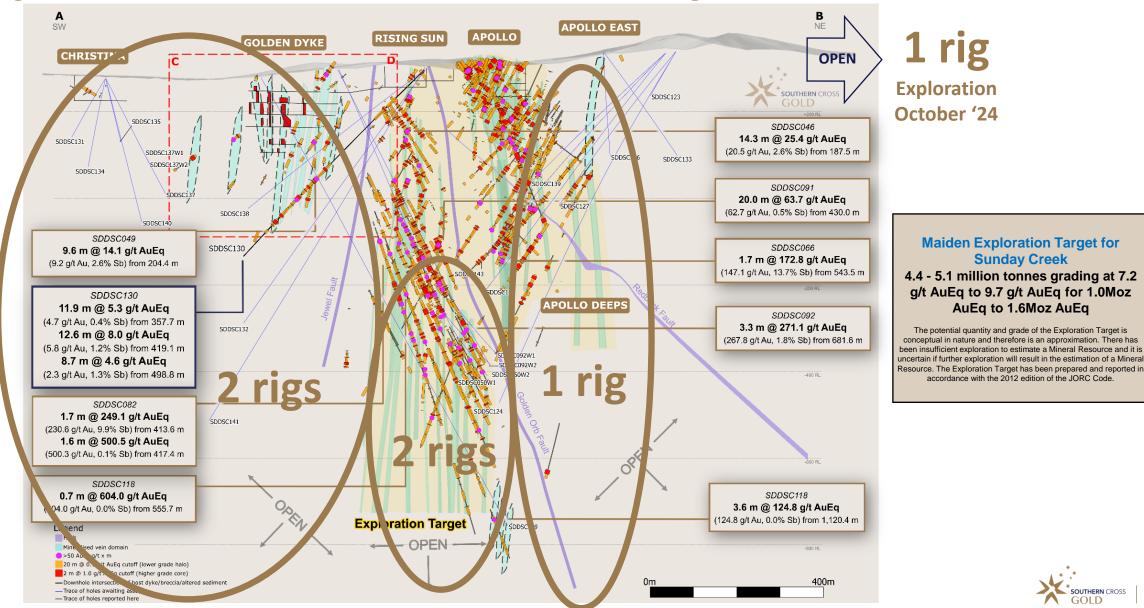
#### Maiden Exploration Target

#### 4.4 - 5.1 million tonnes grading at 7.2 g/t AuEq to 9.7 g/t AuEq for 1.0Moz AuEq to 1.6Moz AuEq

The potential quantity and grade of the Exploration Target is conceptual in nature and therefore is an approximation. There has been insufficient exploration to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of a Mineral Resource. The Exploration Target has been prepared and reported in accordance with the 2012 edition of the JORC Code.

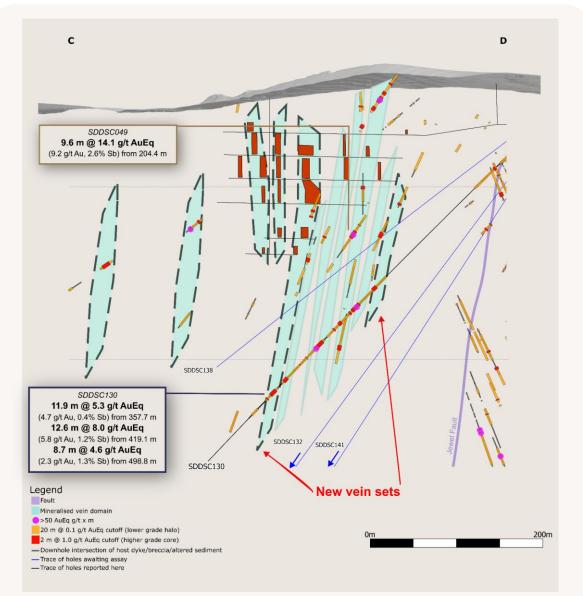


### Long Section View Main Drill Area and Drilling Focus





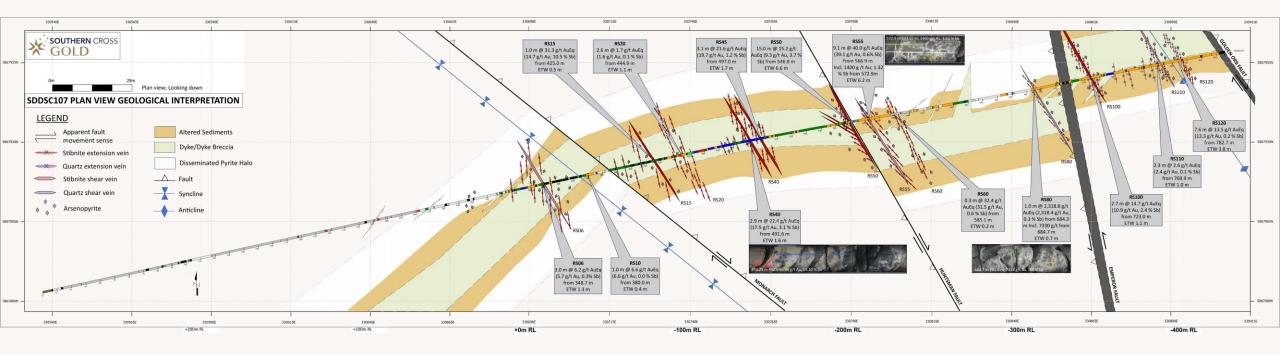
# Sunday Creek – SDDSC130 C-D Long Section





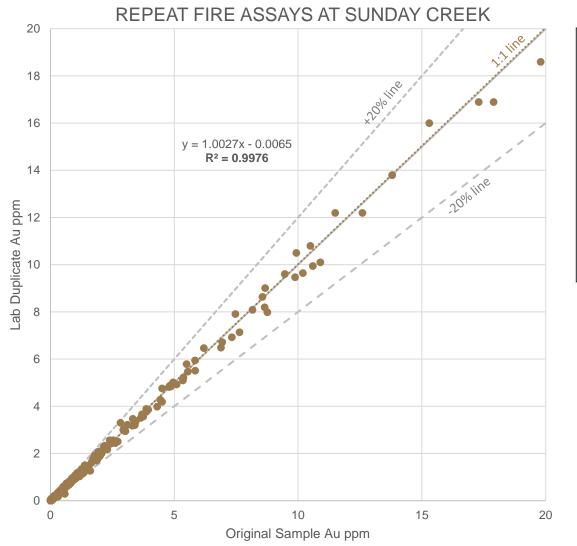


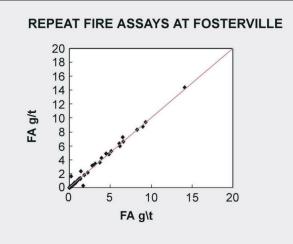
# Sunday Creek – Inclined Plan View of SDDSC107

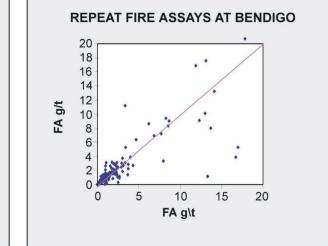




# Lab Duplicates Demonstrate Homogeneity of Samples







Fosterville – Kirkland Lake Gold December 2016 Technical report

Bendigo – GBM gold

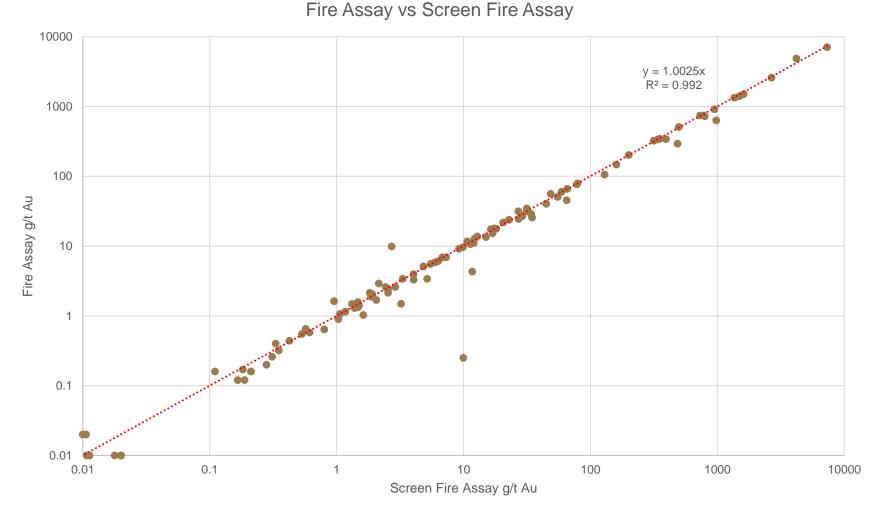
 Comparison of repeat fire assay data at Sunday Creek, Bendigo and Fosterville. All samples prepared in an LM5 pulveriser to nominal -75 micron with two samples taken from each pulp



# High Grade is Not Always Nuggetty: SFA and FA Duplicates



SDDSC117: 0.5 m @ 473.1 g/t AuEq (473.0 g/t Au, 0.0% Sb) from 913.6 m

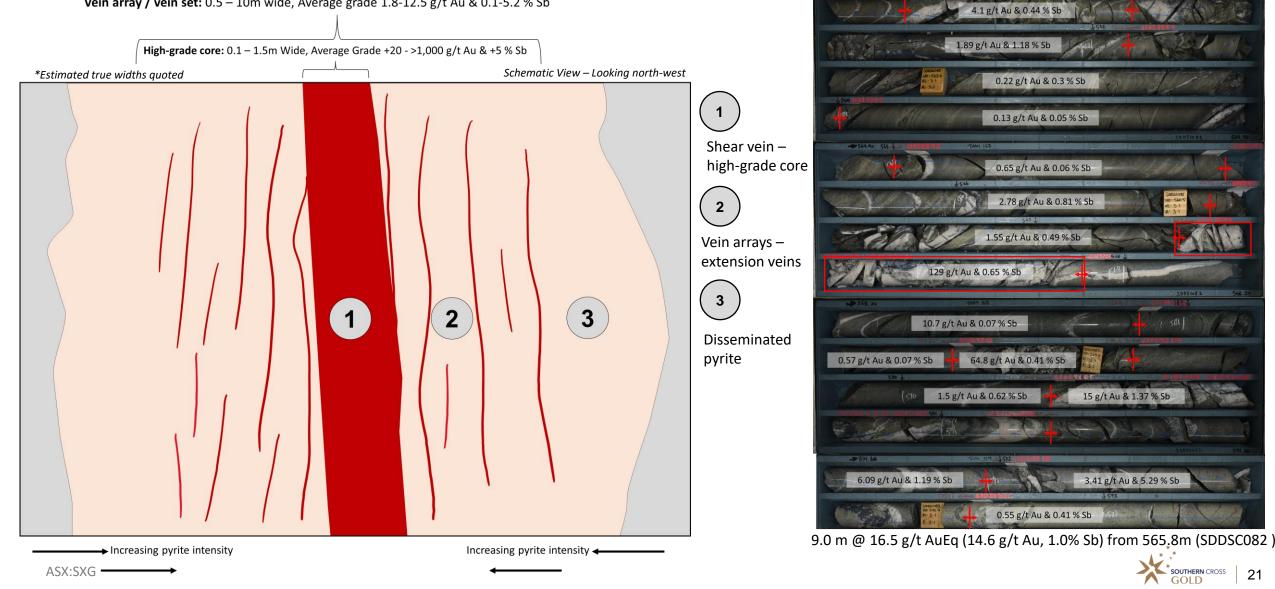


Highly repeatable results between Fire Assay (25g charge) and Screen Fire Assay (entire sample to extinction)



# 50 Vein Sets: Geological Likeness Informs Continuity

Vein array / vein set: 0.5 – 10m wide, Average grade 1.8-12.5 g/t Au & 0.1-5.2 % Sb



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# **Coefficient of Variation**



**Understanding grade continuity** is crucial for high-grade gold deposits.



Low variability or coefficients of variations (CV, standard deviation over mean) in assay results **lowers geological risk and reduces the cost of capital** (less drilling/more confidence in model).



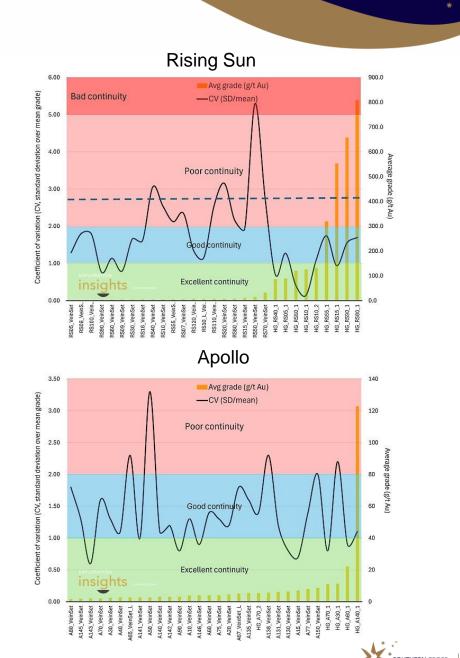
#### **Rising Sun**:

- 636 samples from 29 vein sets
- Average true thickness 2.7m, median 2.3m
- Average 25 g/t gold (up to 808 g/t gold)
- Average CV is 2.7



#### Apollo:

- 994 samples in 30 vein sets
- Average true thickness 3.8m, median 3.4m
- Average 3.8 g/t gold.
- Average CV is 1.8
- More data = declining CV





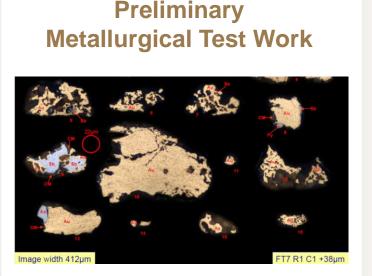
# Does High-Grade Mean High Nugget? No!

- Victorian epizonal Au-Sb is high-grade and not nuggety = reconcilable, high-margin mines
- 2. Repeatable data in lab and in core (visible gold both sides of core)
  = confidence
- 3. Understanding and constraining geology leads to low CV (<2)
  - = predictability and continuity





# Metallurgy



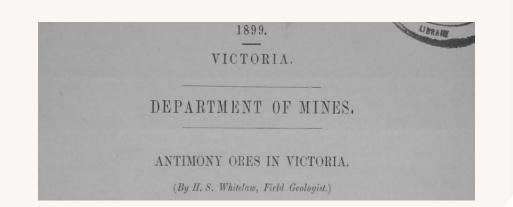
### Non-refractory, simple gravity-flotation flow sheet

- Utilised Costerfield flow sheet
- Mineralogical investigations demonstrated a high proportion of non-refractory native gold (82% 84%).
- Gravity (18-33%) with bulk flotation resulted in 93.3% 97.6% recovery of gold.
- Flotation alone resulted in 88.9% 95.0% recovery of gold in an antimony-gold concentrate:
  - grading 32% 52% Sb (87.1% 93.8% recovery)
  - 81.4 g/t 313.6 g/t Au (40% of feed gold) with low to moderate arsenic contents (0.4% and 2.6%)
  - Opportunities to blend or float sulphide concentrate
  - 96% 98% of the contained gold was native gold
- Next Steps:
  - Optimise for gold into gravity and minimising As into Sb-Au con (blending, sequential flotation)





# Antimony – Yesterday's and Today's Critical Metal





Historically and economically, antimony is the second most important metallic commodity in Victoria after gold.



The Victoria gold mining industry practically closed at the onset of WW1. Except antimony, mandated by the Imperial Government under the Munitions Act, 1915 to ship concentrates to the St. Helens Smelting and Refining Company in the UK

#### The Critical Minerals Institute Identifies the 14 Most Elusive Critical Minerals in the World and Launches New Website

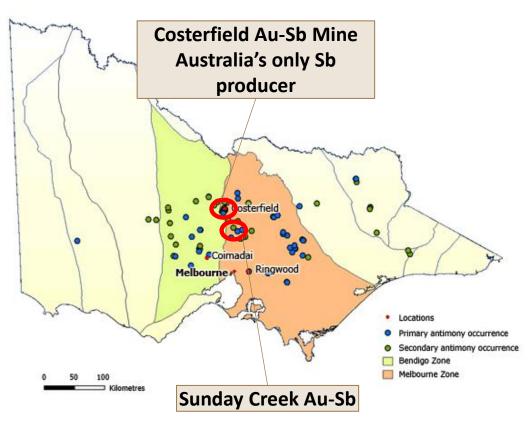
January 18, 2023(https://criticalmineralsinstitute.com/2023/01/18/)
 News Releases (https://criticalmineralsinstitute.com/category/news-releases/)



1. Antimony (sb)	6. Indium (In)	11. Rare Earth Elements – of 17
2. Bismuth (Bi)	7. Lithium (Li)	REEs: neodymium, praseodymium, dysprosium, Terbium
3. Cobalt (Co)	8. Magnesium (Mg)	12. Tantalum (Ta)
4. Gallium (Ga)	9. Niobium (Nb)	13. Tungsten (W)
5. Graphite (C)	10. Platinum group of metal	14. Vanadium (V)

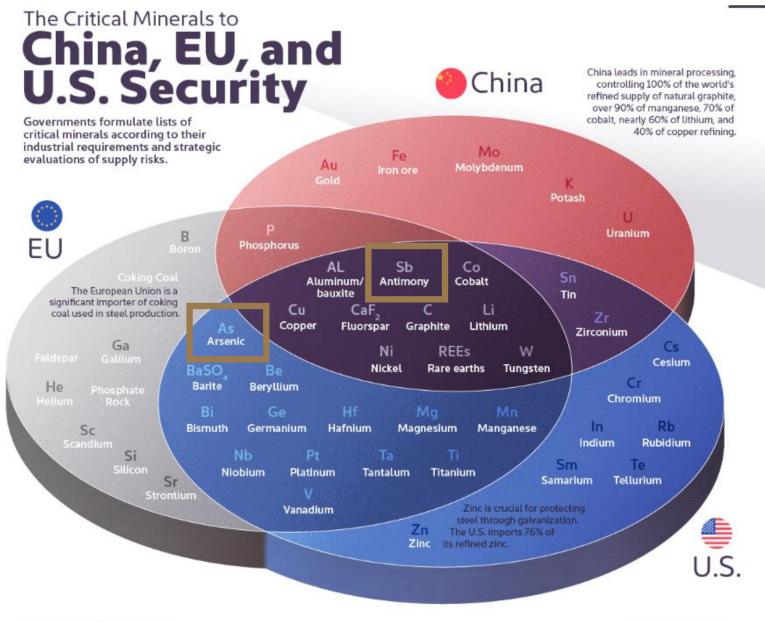


# Antimony from Greek "anti" (not) and "monos" (alone)



- Second most important metal in Victoria
  - 1870s: European wars
  - WW1: Imperial Munitions Act to ship concentrates to the UK
- Middle Ages, antimony was used as a "recyclable" laxative. It was swallowed in the form of a pea-sized pill and could be reused after passing through the digestive system





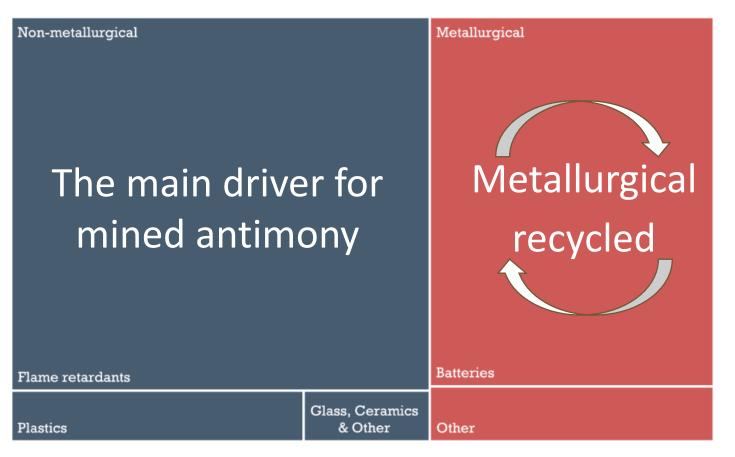
Source: IRENA, The U.S. Department of Energy



https://www.visualcapitalist.com/the-critical-minerals-to-china-eu-and-u-s-national-security/

ASX:SXG

# Demand



Source: Blue

# **Critical and Strategic**

- Defence critical
- Semiconductors
- Solar panels (17% global in 2022)
- Battery metal for its role in liquid metal (Sb-Ca Ambri – Reliance/Gates)





**CUMMULATIVE WORLD** 

**PRODUCTION ANTIMONY** 

METRIC TONNES

(2013 - 2020)

# Supply (Russia + China = 82%)

#### REPORTED 2020 WORLD RESERVES ANTIMONY (METRIC TONNES)

#### CHINA 480,000 CHINA 978,360 RUSSIA 137,480 RUSSIA 350,000 TAJIKISTAN 131,507 BURMA 38,491 BOLIVIA 310,000 30,405 BOLIVIA 2% AUSTRALIA 29,256 KYRGYZSTAN 260,000 TURKEY 25,692 7% AUSTRALIA 140,000 **KYRGYZSTAN** 7,300 IRAN 7,317 TURKEY 100,000 KAZAKHSTAN 5,100 LAOS 4,032 VIETNAM 100,000 VIETNAM 4,009 SOUTH AFRICA 3,548 CANADA 78,000 THAILAND 1,926 UNITED STATES 60,000 MEXICO 2,159 ECUADOR 631 TAJIKISTAN 50,000 PAKISTAN 454 GUATEMALA 284 PAKISTAN 26,000 CANADA 185 HONDURAS 49 MEXICO 18,000 UNITED STATES -



ASX:SXG





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# Passage of priority AUKUS submarine and export control exemption legislation by the United States

 Adds Australia and the United Kingdom to Title III of the US Defense Production Act. This Act allows the US Government to incentivise its industrial base to expand the production and supply of critical materials and goods. Australia's addition will open new opportunities for Australian based industry to directly compete for business with the US Government.

#### 15 DECEMBER 2023

Congress

https://www.minister.defence.gov.au/media-releases/2023-12-15/passage-priority-aukus-submarine-and-export-control-exemption-legislation-united-statescongress#:~:text=This%20Act%20allows%20the%20US,business%20with%20the%20US%20Government





# Not only strategic, also valuable





# Location, Location: Positioning for Development

The company is actively de-risking the project through pre-development activities to be in an optimal position for design, feasibility studies and permitting

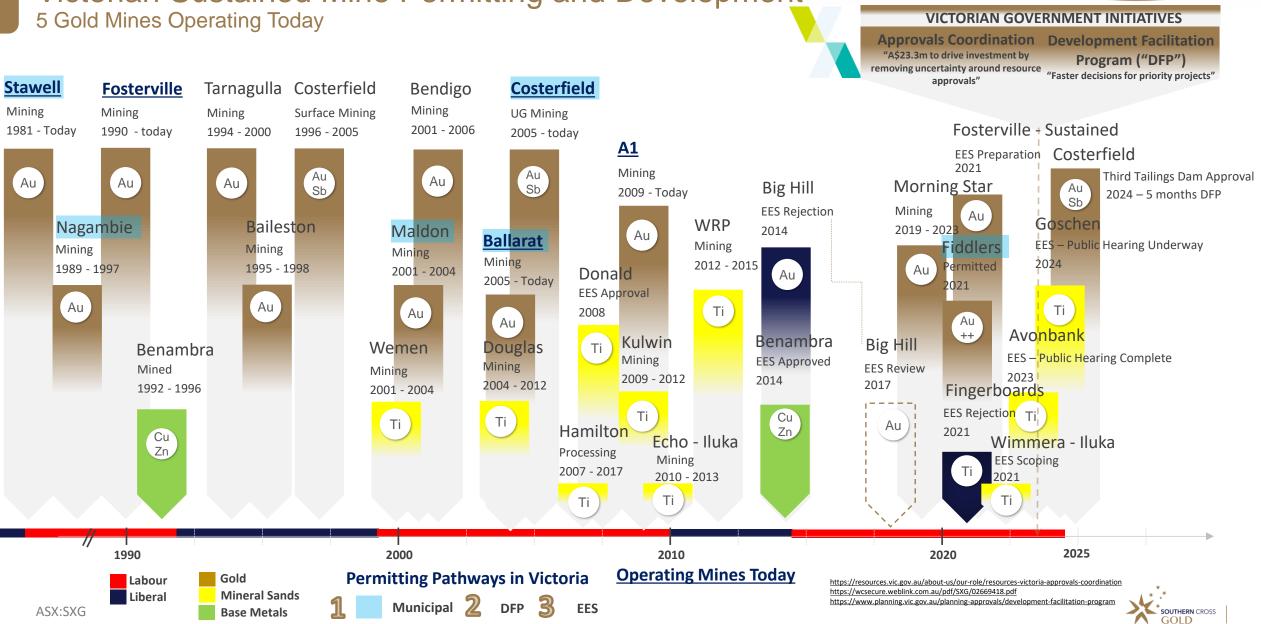




# Positioning For Development with Victoria Open for Business

Our primary focus is to target grade, build volume and demonstrate regional scale, however the company is actively derisking the project through pre-development activities to be in an optimal position for design, feasibility studies and permitting





### Victorian Sustained Mine Permitting and Development

# **Our People**





**Locally based staff –** living in the communities in which we work



Australian based board – focused on creating an ethical, shared value company with strong ESG credentials that employees and investors can be proud of



#### Strong relationships:

Community Reference Group, Shire, Taungurung Lands and Waters Council, State and Federal Government





### **Directors and Key Management**



#### Tom Eadie Non- Executive Chairman

Explorer, mining executive and company director with many significant mineral discoveries and several successful companies to his name (Pasminco, Syrah, Copper Strike) Geologist with over 40 years' experience in the resources industry



#### Michael Hudson Managing Director

Explorationist and entrepreneur, developed and financed mineral exploration properties globally over 30 years. Key member behind multiple discoveries Co-founder and director of Mawson Gold Ltd (TSXv:MAW) and Hannan Metals Ltd (TSXV:HAN)



#### Georgina Carnegie Non-Executive Director

Experienced executive within Australian government and global corporate sectors Advisory roles in public and private mining and insurance sectors, OECD, Asian business councils and Australian university sector



#### David Henstridge Non-Executive Director

Geologist with over 50 years' experience in the mining industry including 20 years in managing publiclisted companies Associated with many mineral discoveries worldwide including in Australia, Peru & Finland

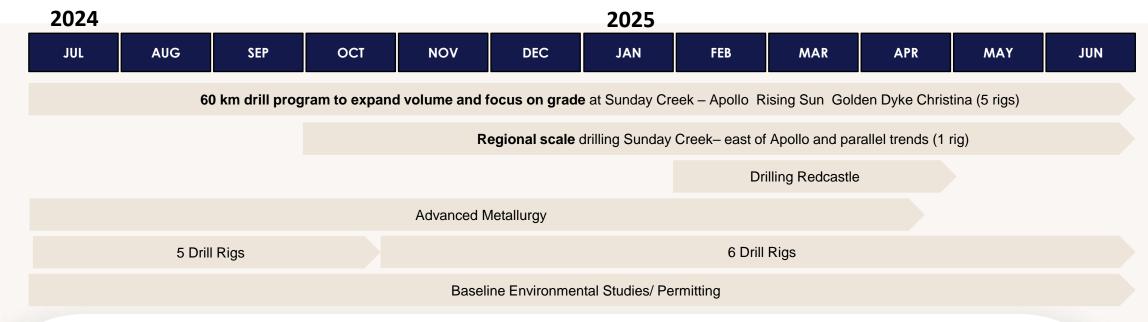


#### Lisa Gibbons General Manager

30+ years' experience as a geologist in exploration & resource development Won the MCA Victoria 2022 Exceptional Woman in Victorian Resources Award for her career achievements, advocacy of women and contribution to social licence and the community



# Aggressive Exploration Program – Staying on the Lassonde Curve





Drilling plan has 3 clear objectives that will have the largest emphasis over the next six months Demonstrate grade, demonstrate volume, demonstrate scale



#### 5 diamond drill rigs

Aim to increase rigs each quarter, 10km per rig p.a., drill cost A\$200/m incl assays



Plan to drill 60 km now to Sept 2025



# Aim to Create the Highest Margin Gold Business Globally



Highest hit rate globally, grade increasing at depth:

- 45 intersections > 100 AuEq g/t x m from 58 km drilling
- 455.3 m @ 7.2 g/t Au including 1.0 m @ 2,318 g/t Au
- 331.5 m @ 6.8 g/t Au including 13.1 m @ 91.7 g/t Au



Free milling gold, 20% antimony by-product (defence critical)



Large exploration upside, only 3% of trend tested



130 drill holes for 56 km reported to date, 60 km over next year



Seasoned discovery team focussed on value creation per share



Supportive shareholders to underpin value creation lifecycle

- Cash \$13.4 m (31 May '24)
- 133.3 ha of freehold land, three properties





#### Contact Us



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www.southerncrossgold.com.au

# C

#### Corporate Development Nicholas Mead

Level 6 350 Collins St Melbourne Vic 3000 Registered Office Level 21 459 Collins St Melbourne Vic 3000



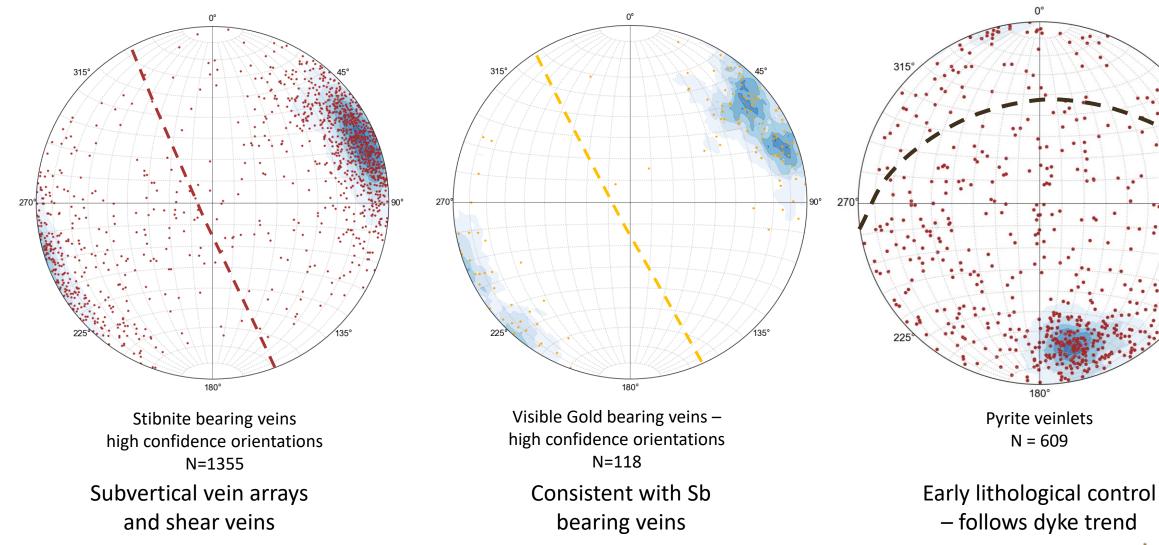


# Appendices



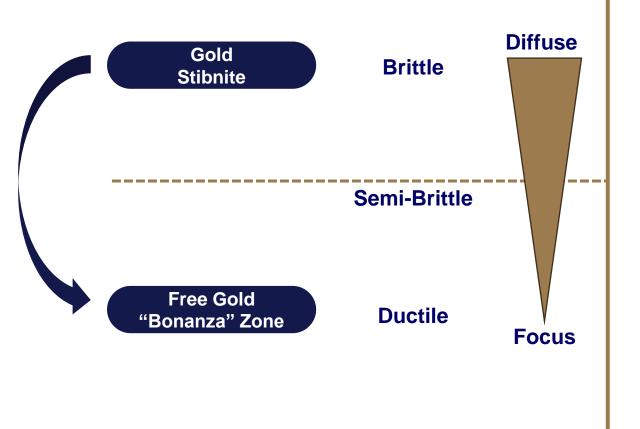


### Structural Geology: Stereonets Inform Continuity



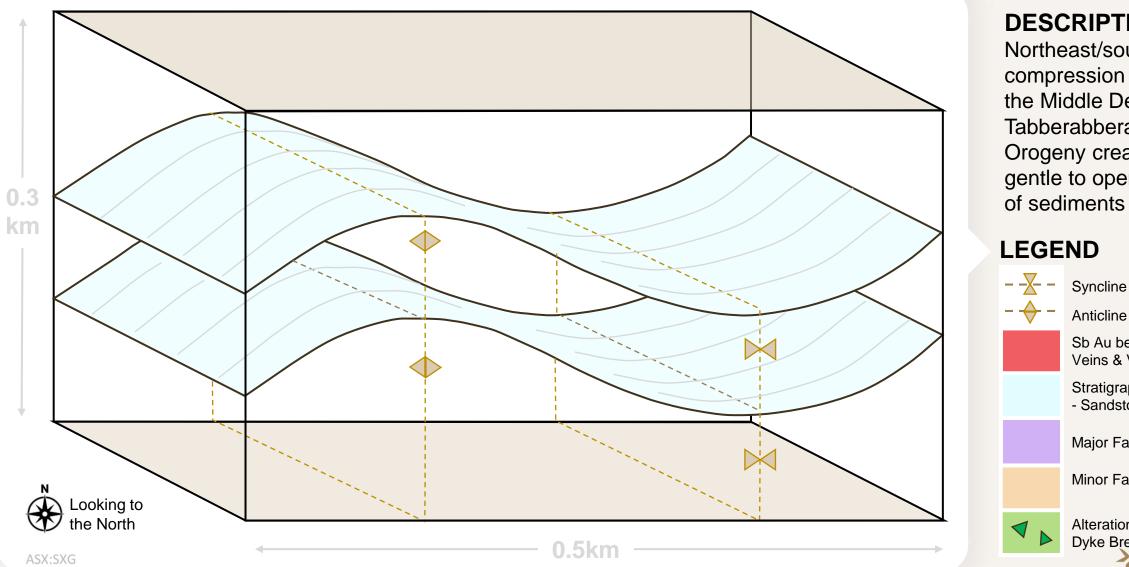
# Brittle to Ductile Transition

**Our Focus** 



# **Brittle Features** Quartz-carbonate-stibnite extension veins in altered dyke **Ductile Features**

42

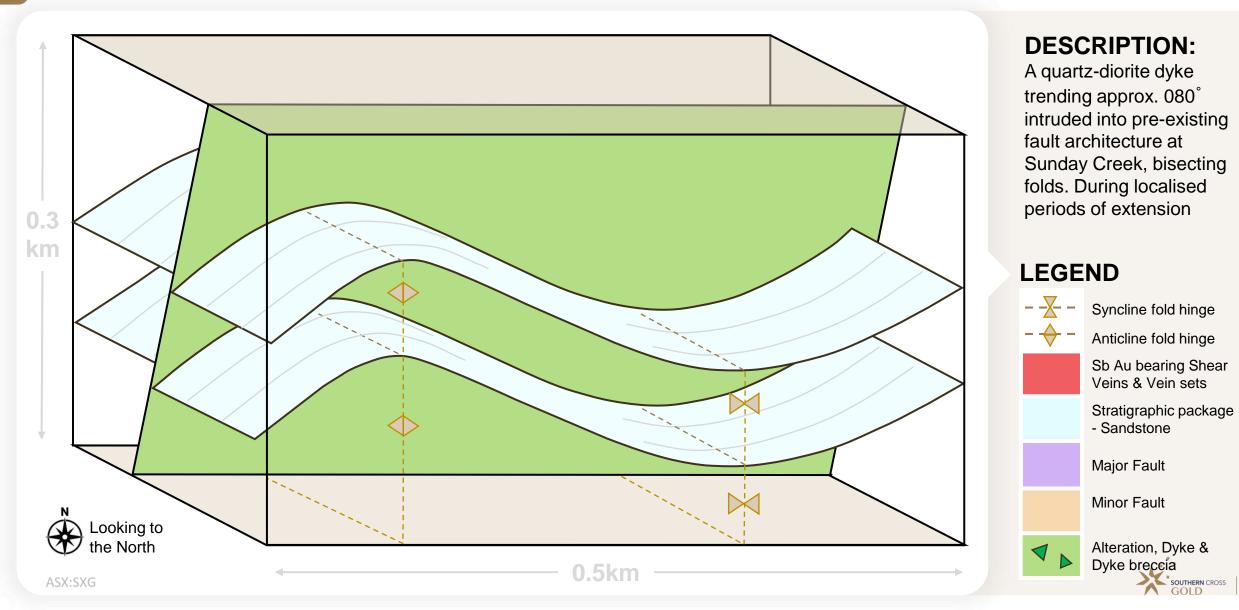


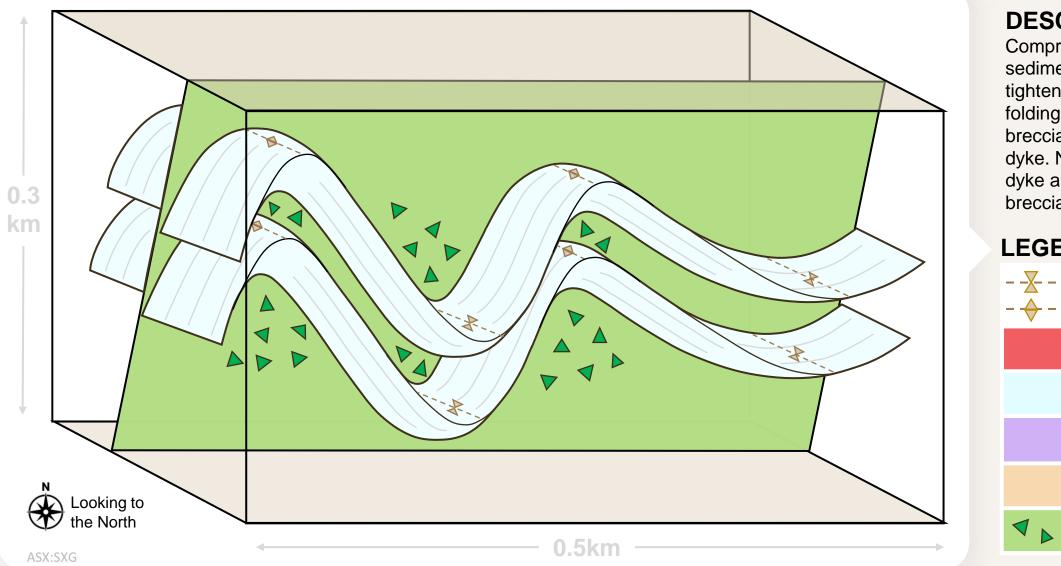
#### **DESCRIPTION:** Northeast/southwest compression during the Middle Devonian Tabberabberan Orogeny creates gentle to open folding





43





#### **DESCRIPTION:**

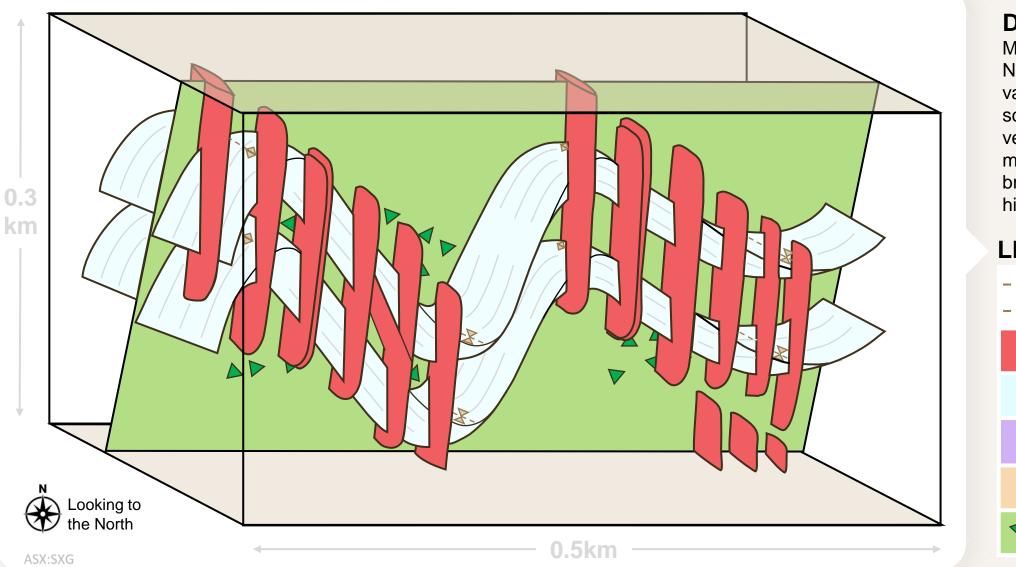
Compression of dyke and sediments causes tightening and parasitic folding of sediments and brecciation of preexisting dyke. Novel addition of dyke and fluids to brecciated areas.





Alteration, Dyke & Dyke breccia

SOUTHERN CROSS

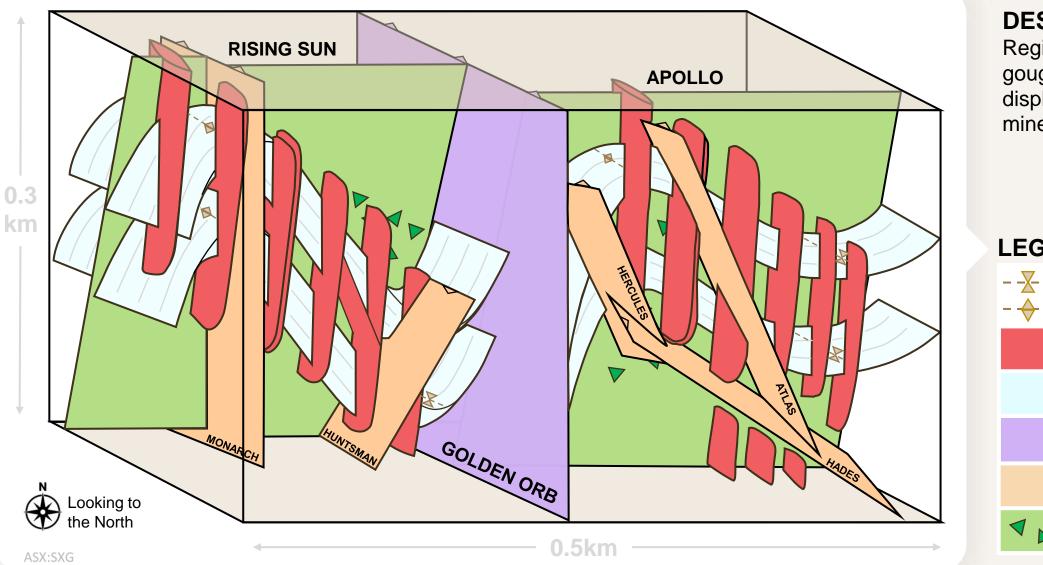


#### **DESCRIPTION:**

Mineralisation forms within NNW striking vein sets, varying from centimeter scale crack-seal veins, to veins with sheared margins, to messy, veinbreccias often carrying higher grades.

#### LEGEND

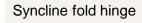




#### **DESCRIPTION:**

Regional series of late gouge faults that displace the dyke and mineralisation.





- . . . . . . . . . .
- Anticline fold hinge

Sb Au bearing Shear Veins & Vein sets

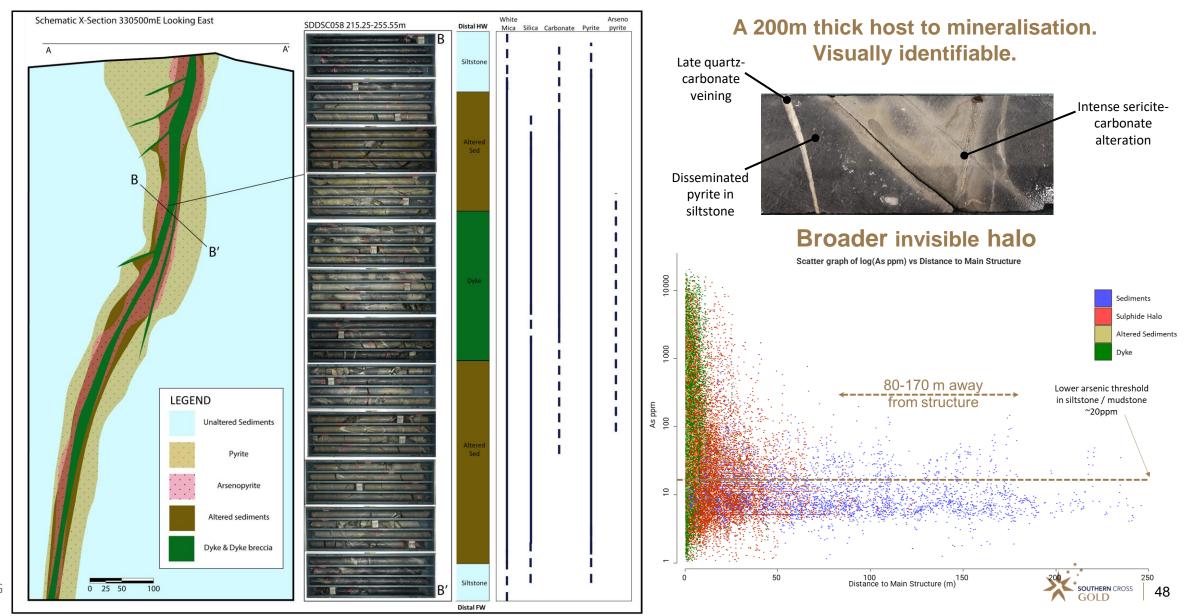
Stratigraphic package - Sandstone

Major Fault

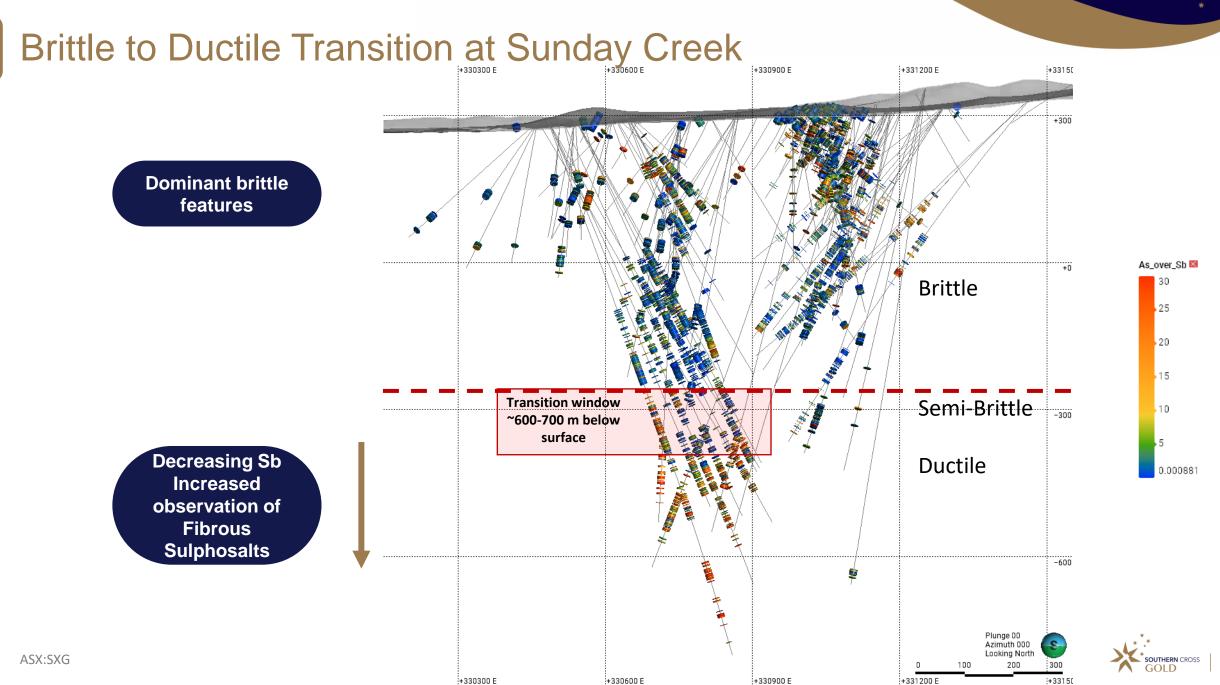
Minor Fault

Alteration, Dyke & Dyke breccia

#### Schematic Cross Section Through Host Looking East



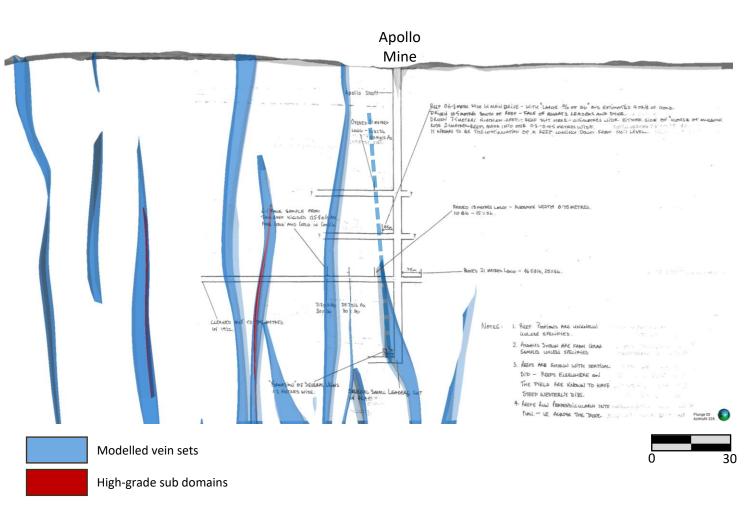
ASX:SXG





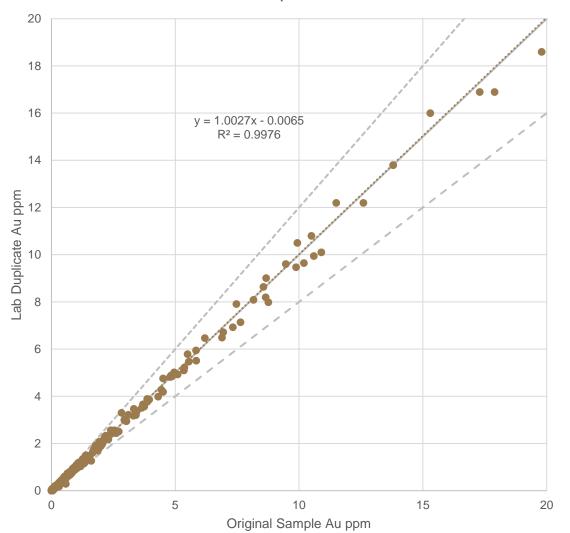
# How to model and predict this style?

- Continuity of vein sets and grades are described in three dimensions across multiple datasets including:
  - Fifty years of historic mining records and drilled continuity below mined areas
  - ✓ Geological likeness
  - Structural oriented drill core data, quality control data and structural controls on mineralization trends
  - Geostatistics that demonstrate a low coefficient of variation

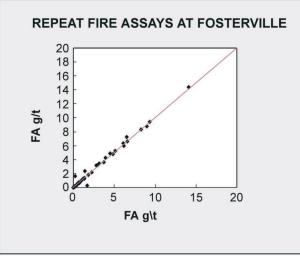




#### Lab Duplicates Demonstrate Homogeneity of samples



Lab duplicate





Bendigo – GBM gold

0

5

20

18

16

14

12 10 8

FA g/t

**REPEAT FIRE ASSAYS AT BENDIGO** 

10

FA g\t

Comparison of repeat fire assay data at Sunday Creek, Bendigo and Fosterville. All samples prepared in an LM5 pulveriser to nominal -75 micron with two samples taken from each pulp

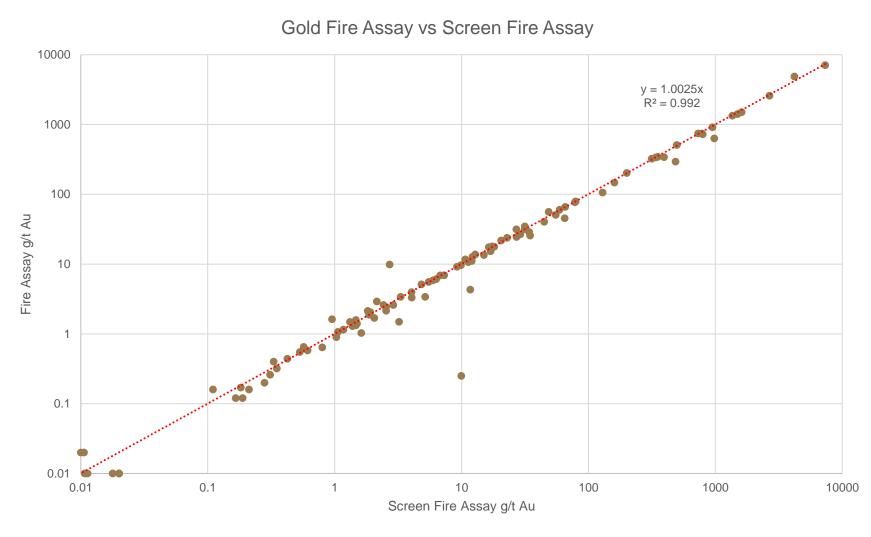


20

15

# High grade is not always nuggetty: SFA and FA Duplicates





SDDSC117: 0.5 m @ 473.1 g/t AuEq (473.0 g/t Au, 0.0% Sb) from 913.6 m

Repeatable results between Fire Assay and Screen Fire Assay

