NEW HIGH-GRADE GOLD ZONE NORTH OF SOUTHERN STAR & SOUTHERN STAR MAIN ZONE EXTENDED AT DEPTH

Highlights

- **Southern Star: ~3,000 metre reverse circulation (RC) drilling program completed in late-2023**
- **New zones of high-grade gold mineralisation detected up to 1.2 kilometres north of Southern Star along the same magnetic high trend, with only sparse, historical, shallow drilling in between. Significant intercepts include:**
  - **13m at 2.16 g/t Au from 57m, including 3m at 4.39 g/t Au in hole 23SSRC010, and**
  - **3m at 4.33g/t Au from 127m, including 1m at 9.94 g/t Au in hole 23SSRC008**
- **In addition, Southern Star main zone mineralisation extended at depth with further high-grade gold intercepts including:**
  - **2m at 2.74g/t Au from 126m and 13m at 2.52 g/t Au from 144m, including 4m at 6.91 g/t Au in hole 23SSRC004, and**
  - **3m at 1.93 g/t Au from 76m and 9m at 3.66 g/t Au from 159m, including 6m at 4.63 g/t Au in hole 23SSRC002**
- **Aggressive drilling programs planned for 2024 across the Company's 388 km^2 Duketon Gold Project with the aim to define an economic resource base**

Great Southern Mining Limited (ASX: GSN) ("**GSN**" or the "**Company**") has received assay results from a targeted 3,155-metre RC drilling program conducted in late-2023 at the Southern Star prospect, part of the 100% owned Duketon Gold Project (refer Figure 1). This drilling has extended the down dip extent of the main zone of mineralisation at Southern Star, which currently extends over a 700-metre strike to a depth of circa 160 metres below surface.

A limited number of wide spaced holes were also drilled to the north of the main zone of mineralisation of Southern Star targeting structural offsets and surface geochemical anomalies. The northernmost line of holes included an intercept of 13m at 2.16 g/t Au from 57m in hole 23SSRC010. This hole is located within GSN's Southern Star mining licence (ML 38/1299) and approximately 300 metres from the tenement boundary with Regis Resources Ltd (ASX:RRL) to the north.

GSN's Managing Director, Matthew Keane, commented:

"This was a small, but targeted drilling program aimed at testing depth extensions and distal targets to the main zone of gold mineralisation already defined at Southern Star. We are particularly excited about the new zones of mineralisation detected to the north. This opens the potential for gold mineralisation along a line of strike some 1.5 kilometres from Southern Star to the tenement boundary with Regis Resources. The Company is poised for an exciting year of drilling at the Duketon Gold Project with high grade drill intercepts to be followed up at the Southern Star, Golden Boulder and Amy Clarke prospects".

For a brief explanatory video on this announcement, or to post comments or queries to GSN management, please visit our Investor Hub site (GSN Investor Hub link).

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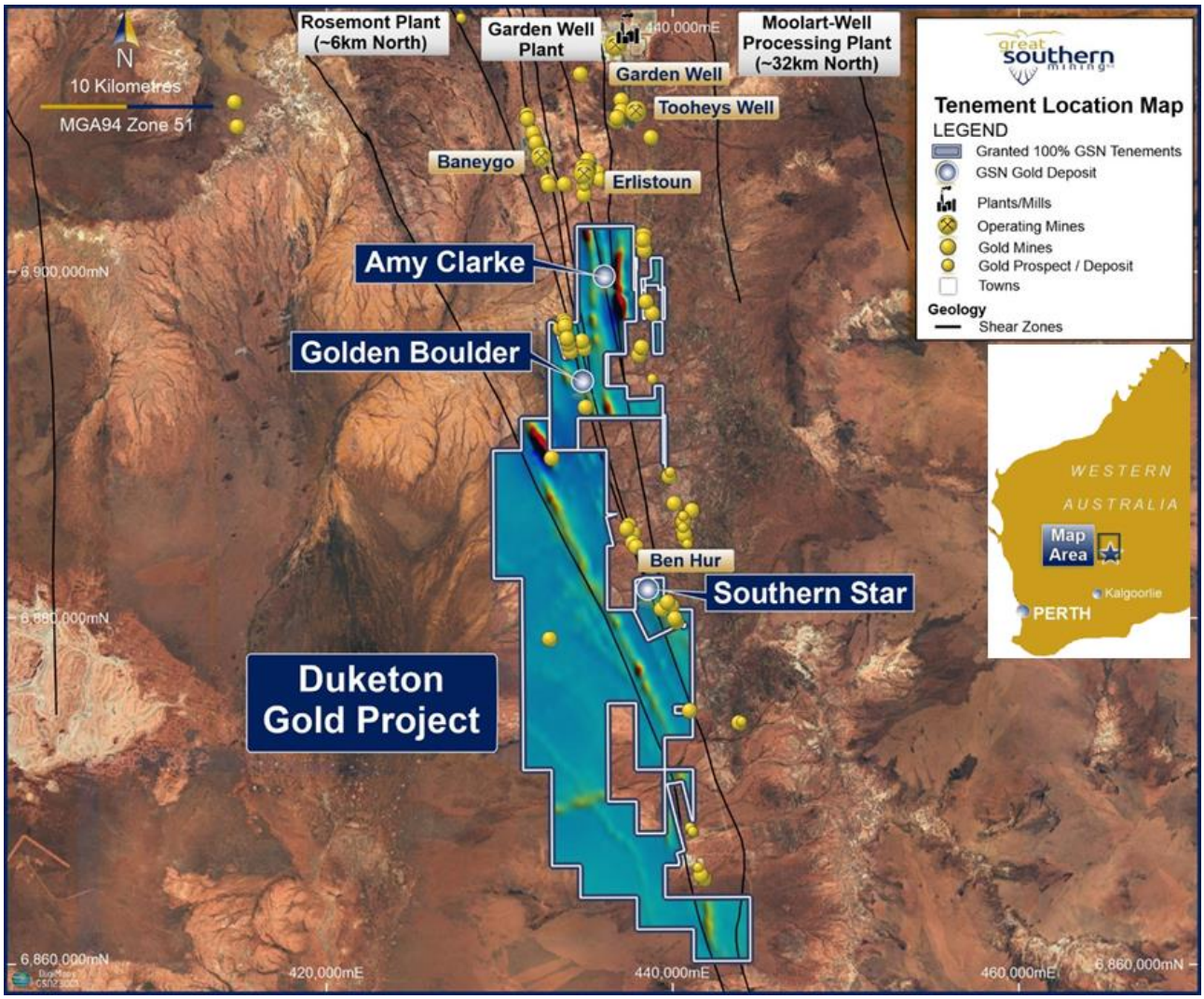

Figure 1. Location map of the Southern Star prospect, part of GSN's 100% owned Duketon Gold Project

Extensional drilling at Southern Star

A 3,155 metre (21 hole) RC drilling program was conducted in late-2023 aimed at testing depth extensions to the main zone of mineralisation at Southern Star, and to test new targets identified from geochemical anomalies and geophysical, structural interpretation. These included zones to the north, along an interpreted offset of the Southern Star main zone host stratigraphy, and to the west, along the interpreted stratigraphic trend that hosts Regis Resources' Ben Hur deposit (located approximately three kilometres north of Southern Star).

Southern Star Depth Extensions

A limited number of holes were drilled below known mineralisation to test for depth extensions to the main zone of mineralisation at Southern Star. Hole 23SSRC002 successfully pulled down the known mineralisation envelope by 65 metres, with the mineralised shear still visible in step-back hole 23SSRC003, a further 35 metres down plunge.

Hole 23SSRC004 extended the mineralisation 40 metres down plunge and remains open at depth. Intercepts from holes 23SSRC002 and 23SSRC004 included:

- 2m at 2.74g/t Au from 126m and **13m at 2.52 g/t Au from 144m, including 4m at 6.91 g/t Au** in hole 23SSRC004, and
- 3m at 1.93 g/t Au from 76m and **9m at 3.66 g/t Au from 159m, including 6m at 4.63 g/t Au** in hole 23SSRC002.

Based on both regional and local structural interpretation, it is proposed that the mineralisation intersected to-date is bounded by a steeply east-dipping inverted fault to the west, which has potential to offset the mineralisation at depth on its footwall. This presents opportunity for the future deep drilling to intersect further deep lodes (Figures 3 and 4).

Northern Extension

Broad spaced drilling to the north has returned two promising high-grade gold intercepts located 1.2 kilometres and 0.8 kilometres respectively from the Southern Star main zone. Best results included:

- **13m at 2.16 g/t Au from 57m, including 3m at 4.39 g/t Au** in hole 23SSRC010, and
- **3m at 4.33g/t Au from 127m, including 1m at 9.94 g/t Au** in hole 23SSRC008

Holes 23SSRC008 and 23SSRC010 are located some 440 metres apart with only one line of shallow (<63 metres depth) aircore drilling in-between. Hole 23SSRC008 targeted an interpreted northern offset of Southern Star, where surface geochemical anomalism coincided with an interpreted litho-structural repeat of Southern Star. There is limited historical drilling along this magnetic high trend from hole 23SSRC008 to the Southern Star main zone, with only one hole drilled below 100 metres depth. This provides an exciting follow-up target zone for future drill programs.

Western Trend

The Western Trend is interpreted by GSN to be along strike from Regis Resources' Ben Hur deposit, located three kilometres to the north. Drilling along this trend focussed on a zone of geochemical anomalism[1]. The original assumption of steep east-dipping stratigraphy, based upon Southern Star geology, proved to be incorrect and most likely resulted in drill holes intercepts into a different position along folded strata (perhaps closer to a fold hinge). Overall, GSN interprets that the stratigraphy to the west of Southern Star is likely to be isoclinally folded, and where hole 23WTRC002 intersected the target stratigraphic contact, elevated gold was noted with a peak grade of 4m at 0.43 g/t from 40m, albeit shallower than anticipated.

Geological modelling will precede the next round of follow-up drilling, as it is GSN's opinion that the previous round did not effectively assess the target at depth due to unforeseen structural complexity. Therefore, the opportunity for gold mineralisation along the Western Trend remains open.

[1] Refer to ASX announcement 9/11/2023

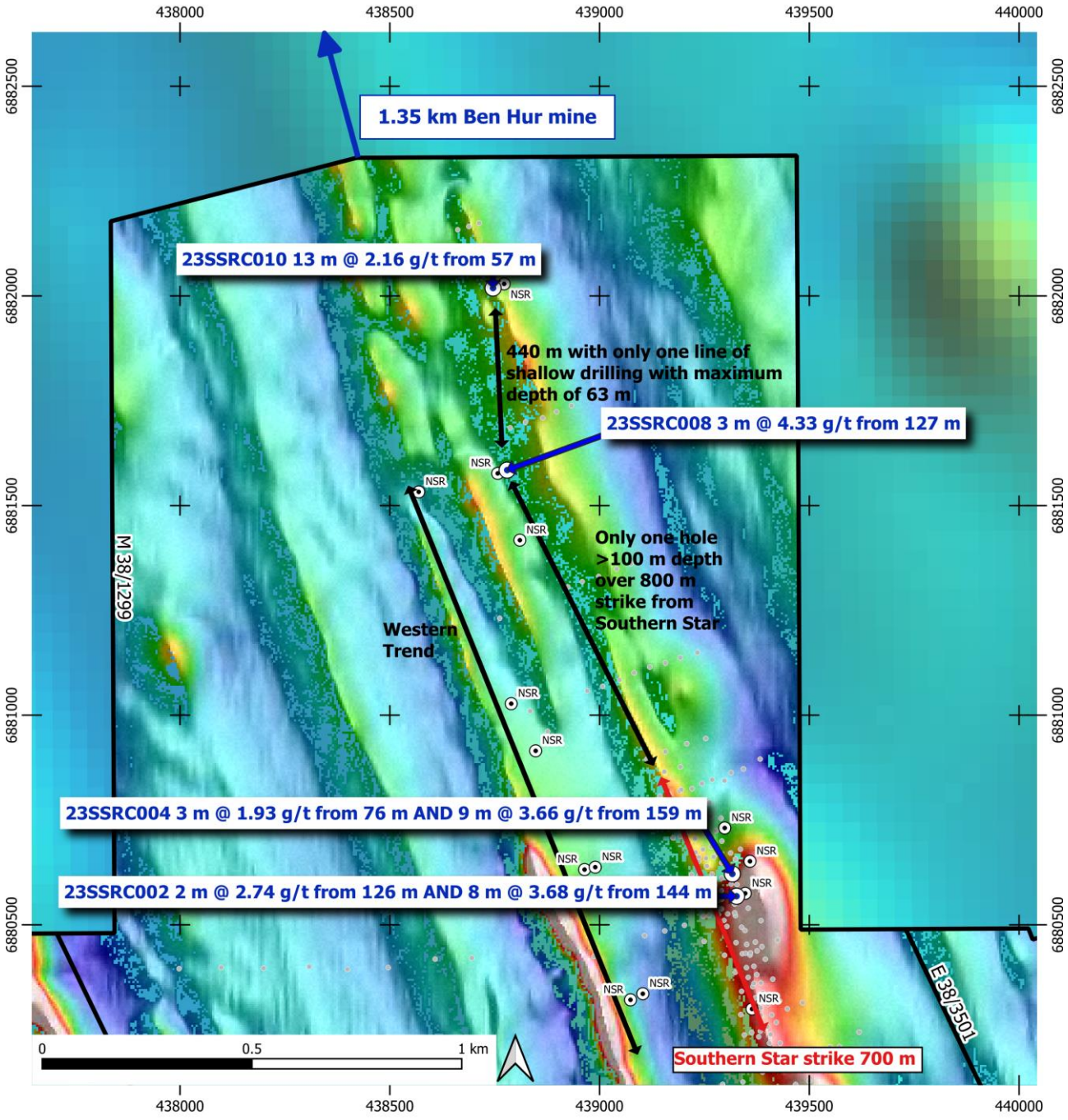

Figure 2. 2023 RC drill hole locations at the Southern Star prospect showing better intercepts and relative distances between know mineralisation and emerging zones of mineralisation. (NSR denotes no significant results from drilled hole).

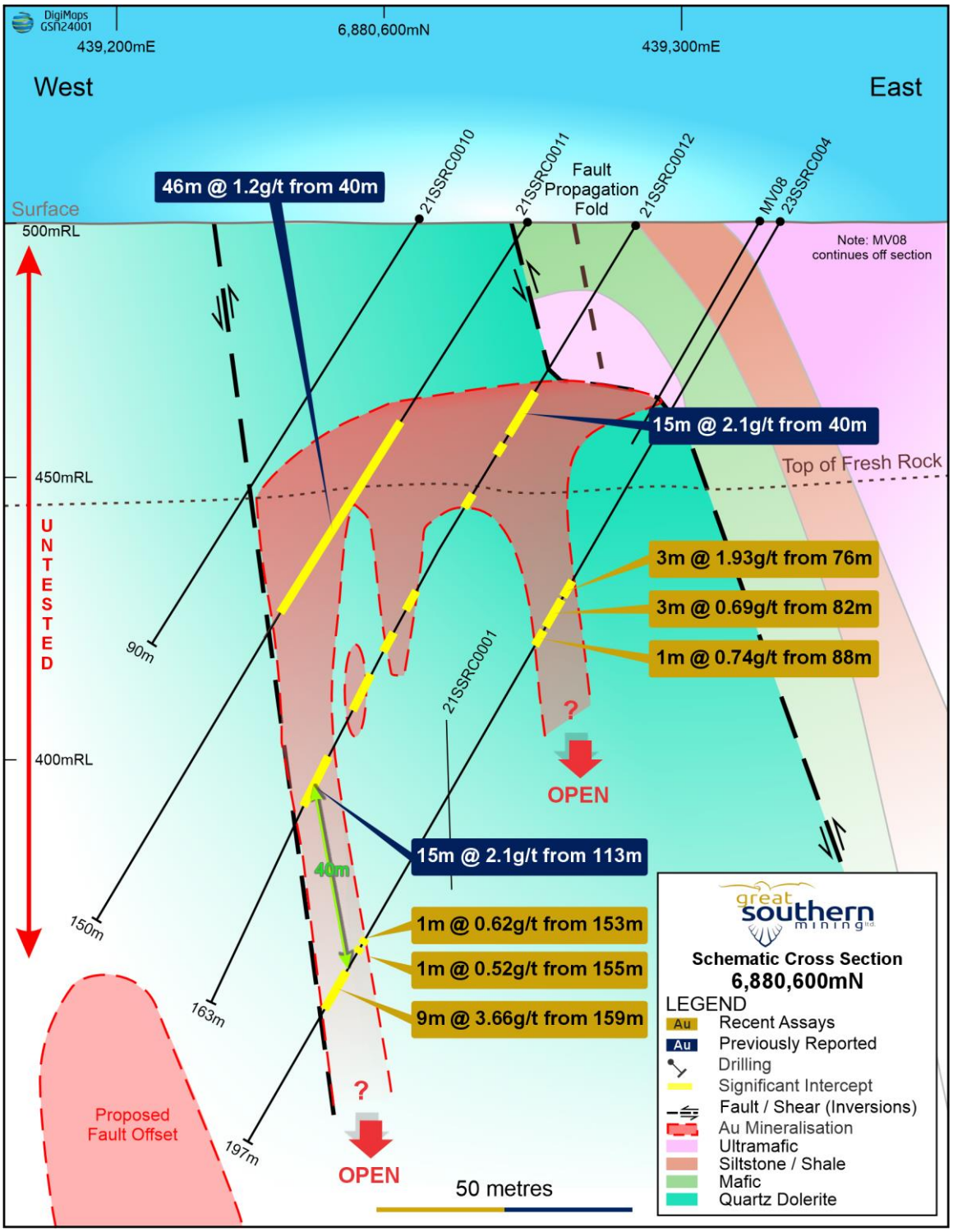

Figure 3. Cross section across of the main zone of mineralisation at Southern star on Northing 6,880,600 showing recent drillhole 23SSRC004

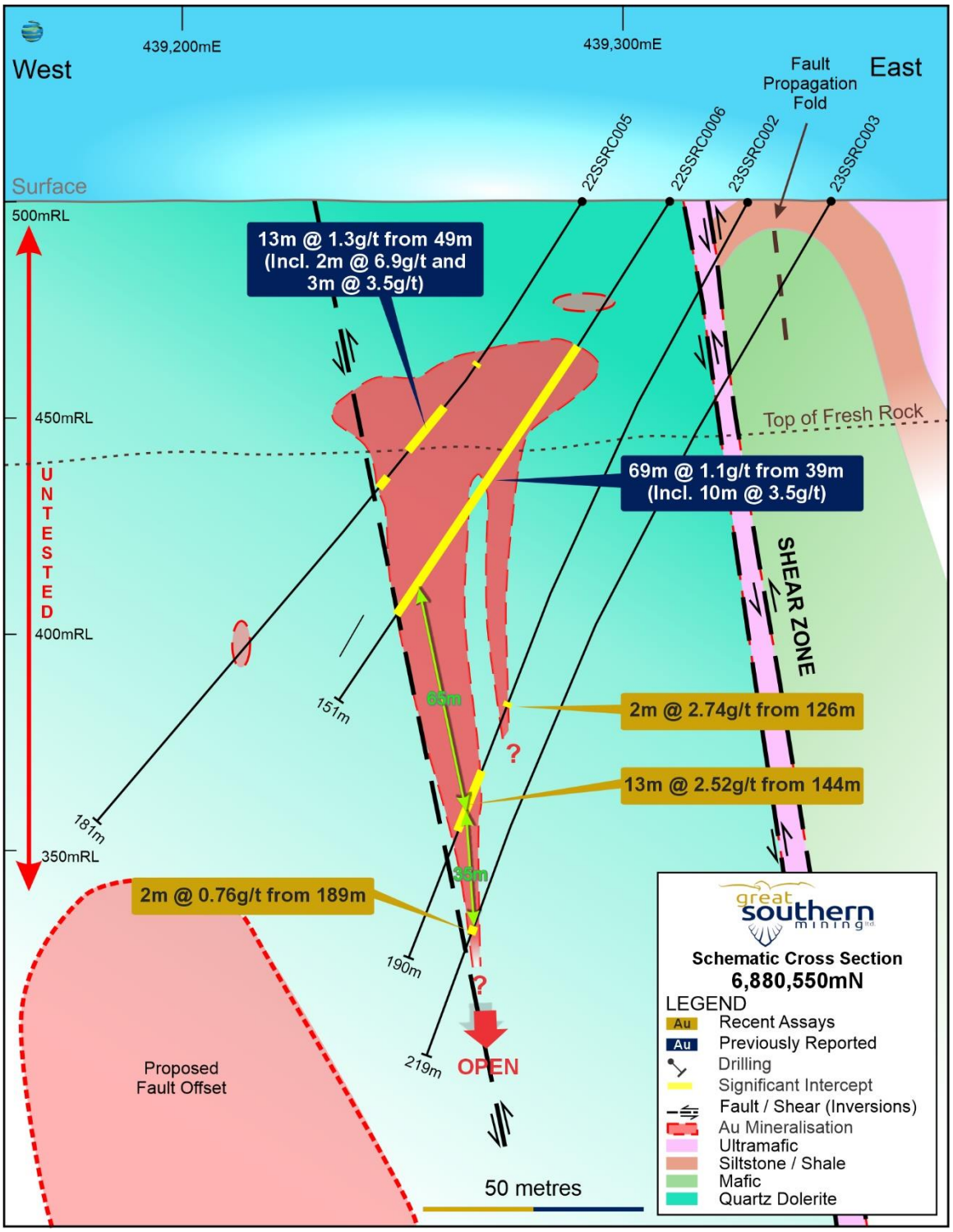

Figure 4. Cross section across of the main zone of mineralisation at Southern star on Northing 6,880,550 showing recent drillholes 23SSRC002 and 23SSRC003

Exploration Strategy for Duketon Gold Project in 2024

The Duketon Gold Project will be a focus for GSN in 2024. By targeting the three key prospects identified to date, namely Southern Star, Golden Boulder and Amy Clarke, the Company aims to delineate an economic resource base within the project area. Future drilling programs will include:

- Follow-up RC and diamond drilling at Southern Star North where new mineralisation has been identified during the recent drilling detailed herein.
- Test Southern Star along strike to the south, which requires further work as it is interpreted that previous drilling did not effectively evaluate the south-plunging envelope.
- Follow-up RC drilling at Golden Boulder, where 2023 drilling successfully delineated multiple mineralised trends[2], including:
    - The Golden Boulder Main trend, which currently extends for 1.6km, with the best intercept from the latest drilling recorded 12m @ 1.3 g/t Au from 44m, including 4m @ 2.4 g/t Au from 48m in 23GBAC022.
    - The Golden Boulder East mineralised trend which extends for over a kilometre with a standout intercept of 8m @ 3.9 g/t Au from 44m, including 4m @ 6.8 g/t Au from 48m in 23GBAC008.
    - Test up to 4 km of a prospective geological contact interpretated from sub-audio magnetic (SAM) surveys within GSN tenure.
- Test depth extensions to shallow mineralisation delineated at Amy Clarke, where highlights from previous GSN drilling[3] included 5m @ 8.2 g/t Au, including 1m @ 33.5 g/t Au from 33m in 21ACAC0147.
- Also at Amy Clarke, further test zones within a 5-kilometre-long multi-element pathfinder anomalous zone.

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The release of this ASX announcement was authorised by the Managing Director on behalf of the Board of Directors of the Company.

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[2] Refer to ASX announcement 16/05/2023

[3] Refer to ASX announcement 13/04/2022

About Great Southern Mining

Great Southern Mining Limited is a leading Australian listed exploration company. With significant land holdings in the world-renowned mining districts of Laverton in Western Australia and Mt Carlton in north Queensland, all projects are located within 40km of operating mills and major operations.

Competent Person's Statement

The information in this report that relates to exploration results at the Duketon Gold Project is based on, and fairly represents, information and supporting documentation compiled and/or reviewed by Ms Rachel Backus. Ms Backus is an employee and Senior Exploration Geologist of Resourceful Exploration Services Pty Ltd (ABN 29 661 905 193) and has been engaged by Great Southern Mining Limited. She has sufficient experience relevant to the assessment and of this style of mineralisation to qualify as a Competent Person as defined by the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves – The JORC Code (2012)". Ms Backus consents to the inclusion in this report of the matters based on the information in the form and context in which they appear.

Forward Looking Statements

Forward- looking statements are only predictions and are not guaranteed. They are subject to known and unknown risks, uncertainties and assumptions, some of which are outside the control of the Company. Past performance is not necessarily a guide to future performance and no representation or warranty is made as to the likelihood of achievement or reasonableness of any forward-looking statements or other forecast. The occurrence of events in the future are subject to risks, uncertainties and other factors that may cause the Company's actual results, performance or achievements to differ from those referred to in this announcement. Given these uncertainties, recipients are cautioned not to place reliance on forward looking statements. Any forward- looking statements in this announcement speak only at the date of issue of this announcement. Subject to any continuing obligations under applicable law and the ASX Listing Rules, the Company, its directors, officers, employees and agents do not give any assurance or guarantee that the occurrence of the events referred to in this announcement will occur as contemplated.

Table 1 – Recent Drillhole locations at Southern Star

Drillhole	Easting	Northing	Dip	Azimuth	Max_Depth
23SSRC001	439364	6880301	-59.29	258	136
23SSRC002	439328	6880570	-60.00	255	190
23SSRC003	439348	6880576	-60.00	260	219
23SSRC004	439317	6880623	-60.00	255	197
23SSRC005	439360	6880653	-60.00	275	257
23SSRC006	439299	6880732	-60.00	250	240
23SSRC007	438811	6881419	-60.00	250	100
23SSRC008	438781	6881586	-60.00	250	149
23SSRC009	438758	6881578	-60.00	250	100
23SSRC010	438747	6882020	-60.00	250	100
23SSRC011	438773	6882030	-60.00	250	112
23WTRC001	438570	6881534	-60.00	250	137
23WTRC002	438790	6881029	-60.00	250	100
23WTRC003	438847	6880915	-60.00	250	142
23WTRC004	438965	6880633	-60.23	250	100
23WTRC005	438991	6880639	-60.40	250	112
23WTRC006	439075	6880322	-60.40	250	100
23WTRC007	439104	6880337	-60.15	249	106
23WTRC008	441107	6875558	-60.07	248	88
23WTRC009	439296	6879841	-60.66	250	140
23WTRC010	439264	6879831	-60.18	246	106
23WTRC011	441084	6875514	-60.54	246	118
23WTRC012	441114	6875446	-60.44	245	106

Significant Intersections for Southern Star (Significant Intercepts are >1m @ 0.5g/t Au with a maximum internal dilution of 2 metre for intervals less than 30m and a maximum 7m internal dilution for intersections larger than 30m. Intersections are downhole widths).

Hole ID	Depth From	Depth To	Interval Width	Au g/t	Sample type
23SSRC002	126	127	1	4.54	1m split
	144	152	8	3.68	1m split
Including	145	151	6	**4.63**	1m split
Including	145	146	1	**10.5**	1m split
and	147	148	1	**6.49**	1m split
and	150	151`	1	**4.83**	1m split
	156	159	3	0.98	1m split
23SSRC003	189	191	2	0.76	composite
23SSRC004	76	79	3	1.93	composite
	82	85	3	0.69	composite
	88	89	1	0.74	composite
	153	156	3	0.52	composite
	159	168	9	3.66	composite
including	160	164	4	**6.91**	composite
23SSRC008	127	130	3	4.33	1m split
including	127	128	1	**9.94**	1m split
23SSRC010	57	70	13	2.16	1m split
including	66	67	1	**6.98**	1m split

JORC Code 2012 Edition – Table 1

Section 1 Sampling Techniques and Data

Criteria	Commentary

Sampling techniques	• RC drill cuttings were collected over 1m intervals via cyclone into buckets and placed in piles on the floor (15-35 kg of sample material):
	  ○ For RC assay sampling, 1-3kg of sample was split from each 1-metre sample length via a cone splitter. The cyclone was manually cleaned at the completion of each rod and thoroughly cleaned at the completion of each hole. The 1-3kg samples were pulverised to produce 50g charge for fire assay.
	  ○ Two-to-four-metre composites, based on logged domains, via spear method were taken for each hole. The anomalous composite samples were then assayed in 1m intervals, except for 23SSRC004, which is yet to be resampled.
	• RC samples were collected and submitted for analysis at Bureau Veritas in Perth for Fire assay analysis. Field QC procedures involved the use of Certified Reference Materials (CRMs) as assay standards, and blanks.

Drilling techniques	The drilling operation was undertaken by experienced drilling contractor, Orlando Drilling. • Reverse Circulation (RC) drilling was conducted with a modern truck mounted Schramm. RC samples were obtained utilizing high pressure and high-volume compressed air using RC 143mm diameter face bit. • Holes orientations were surveyed using a Reflex-multi at 30m intervals.
Drill sample recovery	• RC sample recoveries of less than approximately 80% are noted in the geological/sampling log with a visual estimate of the actual recovery. Very few samples were recorded with recoveries of less than 80%. • Wet RC samples are recorded in logs with only a small portion (5%) detected.

Logging	• All RC drilling was logged at the rig by an experienced geologist.
	  ○ Lithology, veining, mineralisation, alteration, weathering, and oxidation were recorded.
	  ○ Evidence for structural features is noted.
	  ○ RC logging is qualitative and descriptive in nature and representative portions of samples were retained in chip trays for future reference.
	All data was recorded/logged in the field in Log Chief deposit and subsequently transferred to the electronic drillhole database (DataShed5).

Sub-sampling techniques and sample preparation	RC samples (nominal 15-35 kg weight) were split through a cyclone splitter, and a 2-3 kg sub-sample submitted as the primary sample for assay. Two-to-four-metre composites were taken for the portions of the drilling. The anomalous composites were assayed in 1m intervals, except for 23SSRC004, which is yet to be resampled. All composite assays have been received to-date. Field duplicates were taken every 50 samples as a control on sample representativeness. Sample size is regarded as appropriate
Quality of assay data and laboratory tests	• Assay technique is Fire assay and is regarded as total. • Assaying of the RC drilling samples are being conducted by Bureau Veritas, Perth. • Field QC procedures involved the use of Certified Reference Materials (CRM's) as assay standards, in conjunction with duplicates and blanks. The results of this analysis are reviewed when results are received. • The fire assay gold analyses undertaken are considered a total assay method and is an appropriate assay method for the target-style mineralisation. Standard lab QC was also implemented as part of the geochemical testing protocol. No geophysical tools have been applied to the samples, or down hole, at this stage.

Criteria	Commentary
Verification of sampling and assaying	Results are verified by the geologist before importing into Datashed. No twin holes have been drilled. Data is collected by tablet in the field and is imported into Datashed5. RC Field QC procedures involved the use of Certified Reference Materials (CRM's) as assay standards and blanks. Field duplicates were collected also undertaken. Assay data is reviewed prior to importing into Datashed no adjustments are made to raw assay files.
Location of data points	• All data location points referred to in this report are in: • Datum: Geodetic Datum of Australia 94 (GDA94) Projection: Map Grid of Australia (MGA) • Zone: Zone 51 • All collar surveys were completed using handheld GPS (+/- 5m accuracy). • Drill rig alignment was attained using a handheld compass and verified with downhole surveys collected near-surface followed by approximately every 30m. • Downhole surveys were routinely carried out, generally on continuous measure, conducted using Reflex-multi-shot. • The 3D location of individual samples is considered to be adequately established and in line with industry standards for this stage of exploration. • Topography is nominal at this stage holes will be picked up using a DGPS in the future.
Data spacing and distribution	• The drill hole spacing ranges is not systematic; however, most holes are drilled at 250° across the regional strike. Drill hole collar positions are based solely on the drilling of specific exploration targets. • The RC drill holes were planned to test the extension or down plunge extension of the ore body. • Other RC drilling holes were designed over areas of interest from surface geochemistry and geophysical interpretation. • Sampling of RC cuttings was undertaken at 1m intervals, with appropriate high-grade mineralisation, with 1m samples submitted for assay where composites were returned showing significant intercepts. • The current drill hole spacing and distribution is not sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure and classification. • Two-to-four-metre sampling compositing – depending on geological intervals, has been applied to areas of less interest and for regional exploration holes.
Orientation of data in relation to geological structure	• The drill holes have been designed to crosscut the main lithology 250° to maximise structural, geotechnical and geological data. • No drilling orientation and/or sampling bias has been recognised at this time.
Sample security	• Logging has been carried out by GSN and contract personal who were always on-site during drilling. • No third parties have been allowed access to the samples. • Samples were shipped directly from site to a secure stored site in Laverton to undergo evaluation. • Select samples for geochemical analysis were transported from Laverton to Bureau Veritas in Perth where upon receipt the samples are officially checked in and appropriate chain of custody documentation received. All sample information is kept in paper and digital form. Digital data is backed up onto the Company server regularly and then externally backed up daily.
Audits or reviews	No audits or reviews have been conducted.

Section 2 Reporting of Exploration Results

Criteria	Commentary
Mineral tenement and land tenure status	The tenement M38/1299 is in good standing and was granted on April 11th, 2022.The tenement E38/3501 is in good standing and was granted on February 17th, 2021. Great Southern Mining Ltd is the holder.
Exploration done by other parties	Relevant exploration done by other parties are outlined in the body of this report or previous GSN ASX announcements.
Geology	Mineralisation at Golden Star occurs as several stacked lenses within a sequence of foliated sheet-like gabbroic intrusive units and is associated with quartz veining and sulphide alteration between two strike parallel shear zones. The deposit is hosted in a fractionated dolerite sill, overturned and younging to the west that is over 100m wide in areas. Within this dolerite sill the most fractionated part, a quartz-magnetite rich unit up to 80m wide, appears to be the preferential host of the gold mineralisation.
Drill hole Information	All the drill holes reported in this report are summarized in in the report. Easting and northing are given in MGA94 – Zone 51 coordinates. RL is AHD Dip is the inclination of the hole from the horizontal. Azimuth is reported in magnetic degrees as the direction the hole is drilled. Down hole length is the distance measured along the drill hole trace. Intersection length is the thickness of an anomalous gold intersection measured along the drill hole trace. Hole length is the distance from the surface to the end of the hole measured along the drill hole trace.
Data aggregation methods	Significant assay intervals are recorded above 0.1g/t Au with a maximum internal dilution of 2m. no top cuts applied. A breakdown of the high-grade Interval is shown in the body of the report.
Relationship between mineralisation widths and intercept lengths	All significant intersections are quoted as downhole widths. The mineralisation has a near vertical orientation most holes are drilled at a -60-degree dip which is industry standard. All lengths are reported as downhole and the section in the body of the report displays the relationship between drill hole angle and mineralisation interpretation.
Diagrams	Relevant Diagrams are included in the body of this report.
Balanced reporting	All matters of importance have been included.
Other substantive exploration data	All relevant information has been included.
Further work	Future exploration includes assessment of recent drill results. Mineralisation is open along strike and at depth. Diagrams highlight potential area of interest for follow up work.