

## ASX ANNOUNCEMENT

29 June 2022

### EXCEPTIONAL INTERCEPTS CONFIRM GRADE AND DEPTH POTENTIAL AT SOUTHERN STAR

Great Southern Mining Limited (ASX: GSN) (“**GSN**” or the “**Company**”) is pleased to announce recent results from its Reverse Circulation (RC) drill program at its Southern Star Gold Deposit (Southern Star), part of the 100% owned Duketon Gold Project, located 45km north of Laverton, Western Australia (Figure 3).

#### Highlights:

- **69m @ 1.1 g/t Au** from 39m including a higher-grade core of **10m @ 3.5 g/t Au** including **2m @ 12.0 g/t Au** in 22SSRC0006.
- **13m @ 1.3 g/t Au** from 49m including **2m @ 6.9 g/t Au** and **3m @ 3.5g/t Au** from 78m in 22SSRC0005.
- **15m @ 1.0 g/t Au** from 141m incl. **5m @ 2.0g/t Au** in 22SSRC0007.
- **11m @ 1.0 g/t Au** from 167m incl. **2m @ 4.1g/t Au** in 22SSRC0008.
- The drilling targeted extensions to the south of known mineralisation and looked to enhance confidence of grade continuity within the main zones. Drilling has successfully demonstrated mineralisation is coherent with a resource development opportunity at Southern Star potentially emerging.
- Planning underway for high-priority follow-up drill targets.
- Multielement analysis results are pending, designed to aid follow-up drilling at depth.

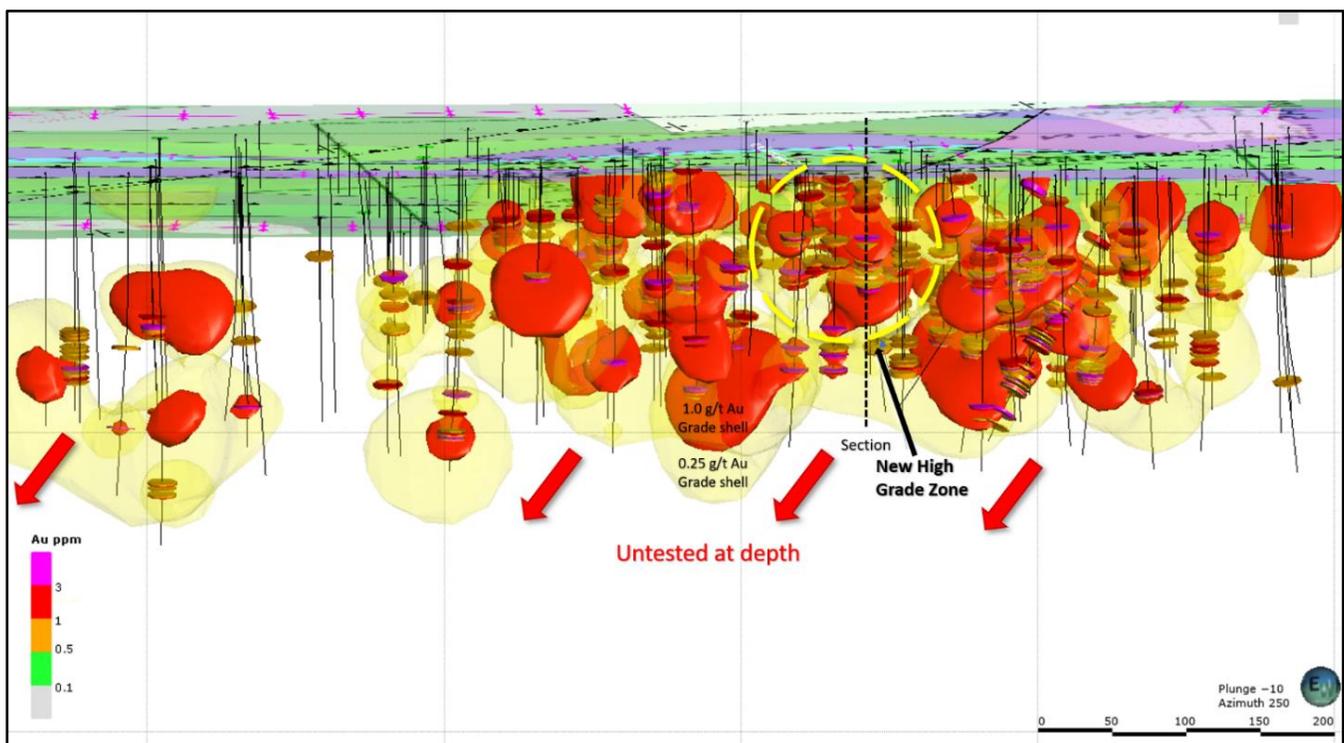


Figure 1 Long section of Southern Star highlighting the new high-grade zone of mineralisation.

## GSN's Executive Chairman, John Terpu, commented:

*“Southern Star has again delivered thick, high-grade gold intersections confirming the grade continuity and depth potential of the deposit. The results from our latest drilling program reinforce what is shaping up as a very sizeable gold deposit. The more drilling we do, the more confident we are of this becoming a deposit of substantial size and scale. Mineralisation is open at depth and we are vectoring in with the aid of multielement analysis to start testing the depth potential. GSN also have more than 5 kilometers of strike to test, north and south, of the known mineralisation at Southern Star and we see this as the first of potentially several deposits to be discovered along this prolific mineralised trend on our 100 percent owned tenure.”*

## Technical Discussion

Drilling at Southern Star has again reported exceptional gold grades of significant thicknesses. These results build on previous drill campaigns\* which have also have been highly successful including the following:

- **17m @ 7.0 g/t Au** from 111m incl. **2m @ 56.7g/t Au** in 21SSRC0039.
- **59m @ 2.1 g/t Au** incl. **9m @ 4.5 g/t Au** and **16m @ 3.2 g/t Au** from 53m in 21SSRC0009.
- **68m @ 1.9 g/t Au** incl **4m @ 15.3 g/t Au** and **5m @ 7.0 g/t Au** from 61m in 21SSRC0036.
- **46m @ 1.2 g/t Au** incl. **11m @ 3.4 g/t Au** from 40m in 21SSRC00011.
- **7m @ 13.9 g/t Au** incl. **1m @ 91.7g/t Au** from 123m in 21SSRC0017.
- **27m @ 1.5 g/t Au** incl. **6m @ 5.0 g/t Au** from 77m in 21SSRC0015.

The recent drilling results reported in this announcement focused on an area ineffectively explored, between two high grade zones. The outstanding intercepts noted now link the two zones of high-grade gold and enhance the zone of gold mineralisation already defined. These robust sections of gold mineralisation are expected to have a positive impact on the resource potential of the project, as mineralisation now joins together in a thick, continuous zone of over 600m (Figure 1).

Drill holes in the new zone have delivered significant gold intercepts including **13m @ 1.3 g/t Au** from 49m including **2m @ 6.9 g/t Au** and **3m @ 3.5g/t Au** from 78m in 22SSRC0005 and **69m @ 1.1 g/t Au** from 39m including a higher-grade core of **10m @ 3.5 g/t Au** including **2m @ 12.0 g/t Au** in 22SSRC0006. This zone remains open at depth and will be a focal point for follow-up drilling. The new drilling suggests a coherent panel of mineralisation with historic drillhole locations in this area being estimates only given their vintage.

The quartz dolerite is the primary host to high-grade mineralisation at Southern Star. Most gold bearing veins are parallel to the shearing and the stratigraphy (NNW-SSE) and are dipping sub-vertically (Figure 2). High-grade mineralisation is associated with strong to intense quartz-albite-carbonate ± sericite alteration, quartz veining and disseminated sulphides (pyrite/pyrrhotite >3%). Proximal to mineralisation, the quartz dolerite becomes medium to coarse grained, displaying a granophyric texture due to being dominated by quartz-albite-carbonate ±sericite alteration.

A total of 4,931m of RC drilling was completed from this recent program and builds on the total of over 11,000m which now has been drilled by GSN since acquiring the project in February 2021. The combination of this drilling has demonstrated the mineralisation is coherent and potential for resource development at Southern Star is now emerging.

\* Refer to ASX announcements 5/10/21, 11/10/21, 23/8/21 and 2/8/21.

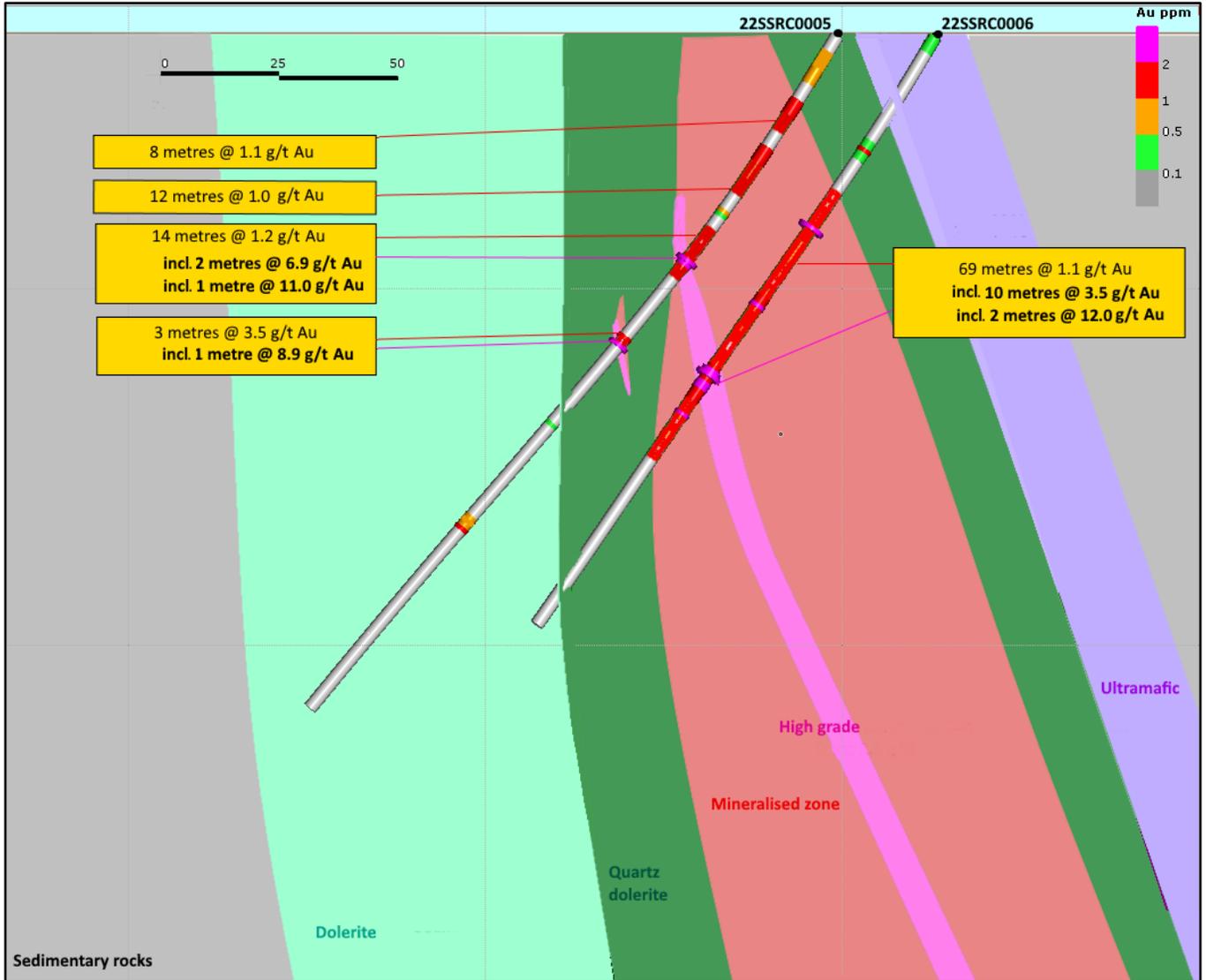


Figure 2 – Southern Star Cross Section illustrating excellent grade correlation within the target quartz dolerite unit.

GSN's shares the Duketon Greenstone Belt with gold producer Regis Resources Limited, which has been successful in the identification of +8Moz of gold resources (refer to company website). The majority of these deposits reside on major well understood shear zones. GSN's tenure in the Duketon Greenstone Belt includes significant portions of these shear zones and through the use of magnetic data and geological mapping, GSN immediately identified these shear zones as high priority target corridors, and have aggressively begun to explore these well understood trends. It is interpreted that all three mineralised corridors continue into the company's tenure with:

- ~8km of the Eristoun Trend
- ~7km of the Garden Well Trend
- ~11km of the Rosemont-Ben Hur Trend.

These trends are mapped on Figure 3.

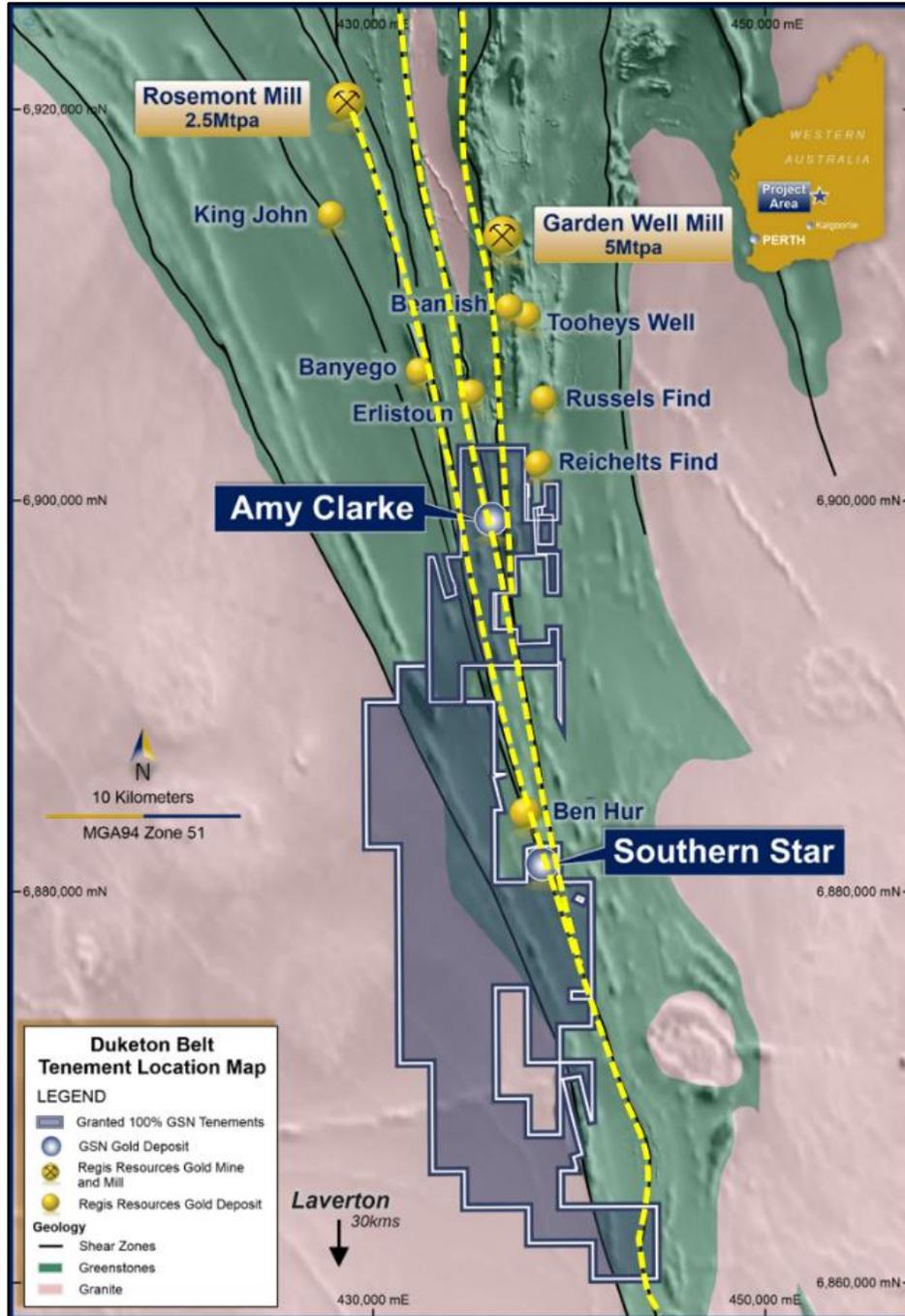


Figure 3 Plan view of GSN's tenement holding in the Duketon Project highlighting the location of Southern Star and mineralised corridors (in yellow).

Southern Star resides on the Rosemont-Ben Hur Trend and is only 4km south of Ben Hur. This prolific trend has produced well over 1.5Moz of resources for Regis Resources. The successful drill results at Southern Star to date, in combination with its position along strike from other significant deposits, has demonstrated a potential mineral resource development at Southern Star is emerging.

Exploration along the trend by previous explorers appears to be limited to shallow ~80m wide spaced RAB and aircore drilling (Figure 4 and Figure 5), the target quartz dolerite unit is known to pinch and swell, resulting in the true thickness of the unit ranging from 5-50m in places making previous exploration ineffective.

Part of the Company's recent RC program at Southern Star began to test the trend to the south. Low-level gold anomalism was identified in multiple drillholes. When distal to gold mineralisation, the quartz dolerite is characterised by blue quartz and plagioclase phenocrysts in a chlorite  $\pm$ carbonate  $\pm$ magnetite matrix. Blue quartz and plagioclase phenocrysts were observed in multiple holes suggesting the recent drilling was successful in mapping out the distal mineralisation within the quartz dolerite unit. Multi-element composite sampling was undertaken on the recent drill campaign with the intention to map out the albite-carbonate  $\pm$ sericite alteration to vector in on the high-grade mineralisation. Results of the multielement analysis is still pending.

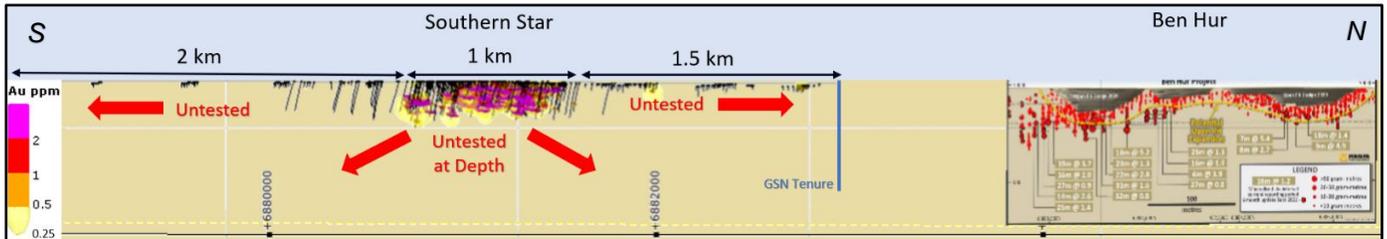


Figure 4 Long section of Southern Star highlighting the underexplored and poorly tested areas along strike and at depth.

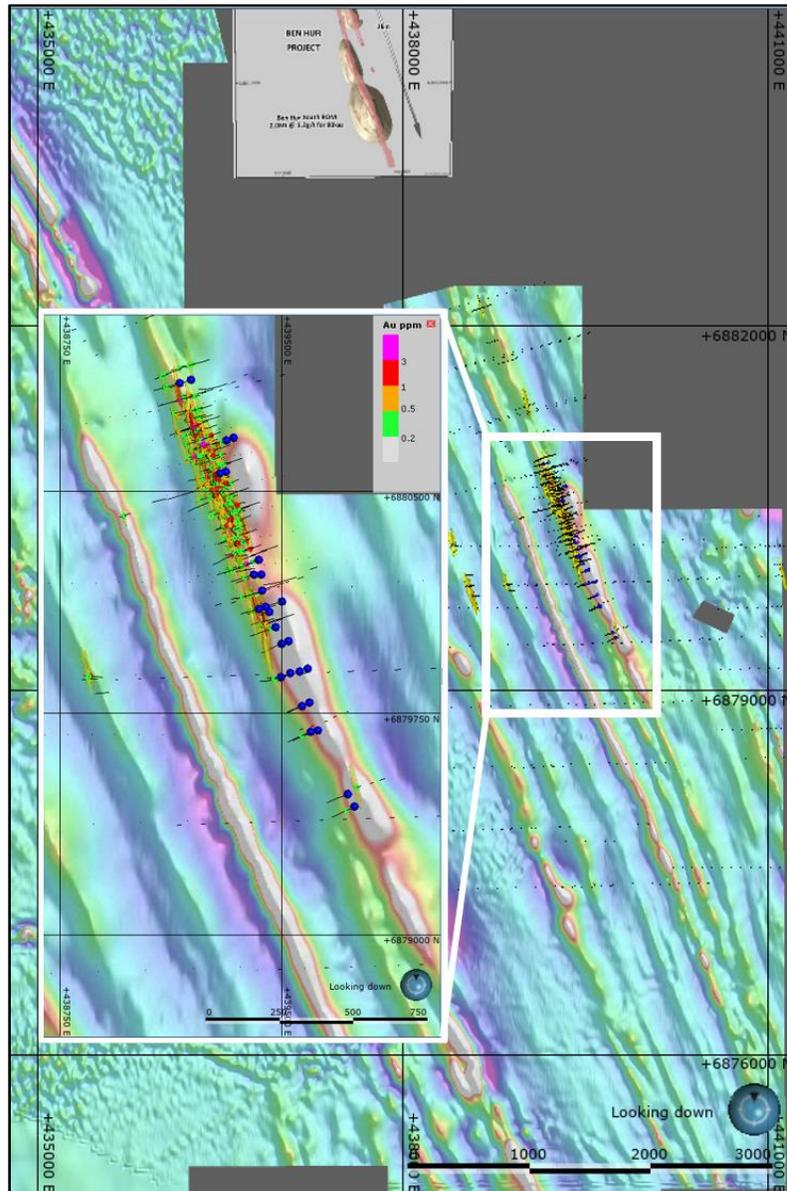


Figure 5 – Plan view of recent (blue collars) and all drilling results at Southern Star, overlay with TMI magnetics

## Next Steps

The Company is planning further RC drilling to test strike extensions and further test the depth potential at Southern Star. Multielement analysis results from the recent drilling are still pending with the multielement data to be used to vector in on mineralisation for targeted drill campaigns through the use of alteration mapping which has been successful in previous drill campaigns.

Similarly, an extensive multielement soil program north and south of Southern Star is currently underway (Figure 6). The use of trace level multielement soils was pivotal in defining the Amy Clarke Prospect (Figure 3) and this same technique will be used to test the strike further afield on this well recognised mineralised corridor.

This is part of an overarching strategy to discover and to grow Mineral Resources at the Duketon Project.

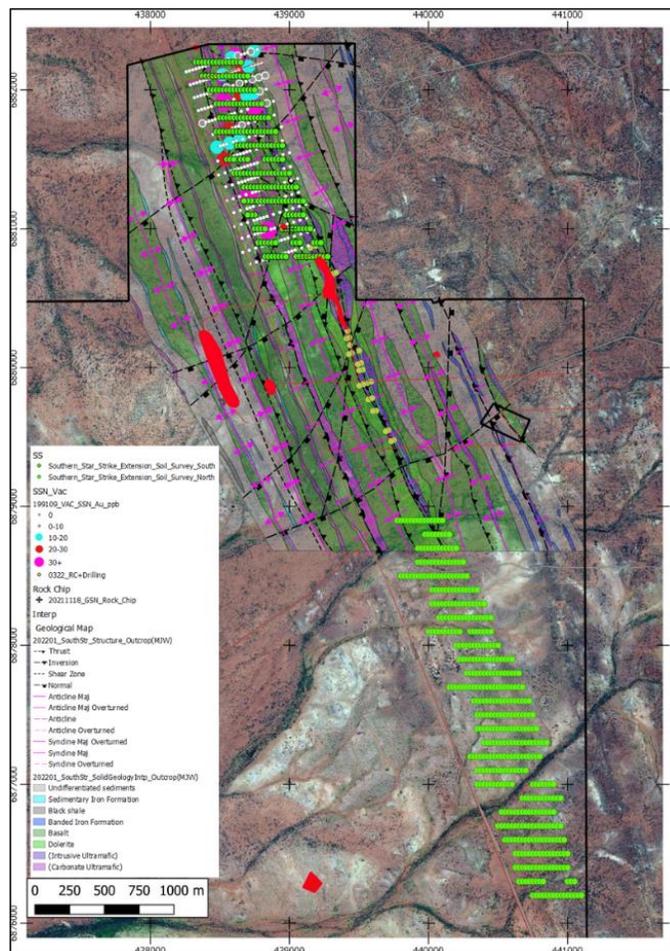


Figure 6 Plan view of the Southern Star Area highlighting recently completed detailed mapping of the area and planned soil program underway (green circles)

**This announcement has been approved for release by the Board of Directors of Great Southern Mining Limited.**

**- ENDS -**

**For further information contact:**

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## About Great Southern Mining

Great Southern Mining Limited is a leading Australian listed exploration company. With significant land holdings in the world-renowned districts of Laverton in Western Australia and Mt Carlton in North Queensland, all projects are located within 25km of operating mills and major operations.

The Company's focus is on creating shareholder wealth through efficient exploration programs and strategic acquisitions of projects that complement the Company's existing portfolio of quality assets.

For further information regarding Great Southern Mining Limited please visit the ASX platform (ASX:GSN) or the Company's website [www.gsml.com.au](http://www.gsml.com.au).

## Competent Person's Statement

The information in this report that relates to Exploration Results is based on information compiled or reviewed by Simon Buswell-Smith, a Competent Person who is a Member of the Australian Institute of Geoscientists. Mr. Buswell-Smith is a full time employee of Great Southern Mining Limited. Mr. Buswell-Smith has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken 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'. Mr. Buswell-Smith consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

## 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	Depth
22SSRC0001	439497	6879872	-60	250	145
22SSRC0002	439529	6879886	-60	250	157
22SSRC0003	439561	6879891	-60	250	220
22SSRC0004	439588	6879901	-60	250	229
22SSRC0005	439291	6880562	-60	250	181
22SSRC0006	439311	6880567	-60	250	151
22SSRC0007	439313	6880673	-60	250	193
22SSRC0008	439337	6880682	-60	250	211

Drillhole	Easting	Northing	Dip	Azimuth	Depth
22SSRC0009	439155	6880867	-60	250	151
22SSRC0010	439193	6880878	-60	250	169
22SSRC0011	439422	6880269	-60	250	211
22SSRC0012	439406	6880219	-60	250	168
22SSRC0013	439431	6880219	-60	250	180
22SSRC0014	439434	6880165	-60	250	162
22SSRC0015	439423	6880103	-60	250	120
22SSRC0016	439446	6880110	-60	250	168
22SSRC0017	439501	6880128	-60	250	270
22SSRC0018	439479	6880041	-60	250	181
22SSRC0019	439500	6879985	-60	250	180
22SSRC0020	439523	6879994	-60	250	193
22SSRC0021	439458	6880093	-70	250	217
22SSRC0022	439569	6879774	-60	250	175
22SSRC0023	439594	6879786	-60	250	193
22SSRC0024	439598	6879687	-60	250	169
22SSRC0025	439623	6879692	-60	250	187
22SSRC0026	439724	6879476	-60	250	175
22SSRC0027	439746	6879434	-60	250	175

Table 2 - Significant Intersections for Southern Star (Significant Intercepts are >1m @ 0.1g/t Au with a maximum internal dilution of 2 metres or 4m composite where marked with \*.

Hole ID	Depth From	Depth To	Interval Width	Au g/t
22SSRC0001	53	54	1	0.2
	73	74	1	0.1
	119	120	1	0.1
22SSRC0003	198	199	1	0.1
22SSRC0004	172	173	1	0.1
	191	192	1	0.1
	221	222	1	0.3
22SSRC0005	4	40	36	0.7*
<i>incl</i>	28	32	<b>4</b>	<b>1.9</b>
	44	46	2	0.4
	49	62	<b>13</b>	<b>1.3</b>
<i>incl</i>	57	58	<b>1</b>	<b>11.0</b>
	78	81	<b>3</b>	<b>3.5</b>
<i>incl</i>	80	81	<b>1</b>	<b>8.9</b>
	102	103	1	0.2
	128	132	4	0.7

Hole ID	Depth From	Depth To	Interval Width	Au g/t
<i>incl</i>	131	132	1	1.4
<b>22SSRC0006</b>	0	4	4	0.11*
	26	31	5	0.4
<i>incl</i>	28	29	1	1.03
	39	108	69	1.1
<i>incl</i>	83	93	10	3.5
<i>incl</i>	85	87	2	12.0
	66	69	3	2.1
<b>22SSRC0007</b>	35	38	3	0.1
	64	66	2	0.4
<i>incl</i>	64	65	1	1.0
	75	76	1	0.2
	84	85	1	0.2
	91	92	1	0.1
	94	95	1	0.1
	98	102	4	0.2
	106	111	5	0.6
	141	158	17	0.9
<b>22SSRC0008</b>	104	105	1	0.3
	109	110	1	0.2
	120	121	1	0.4
	125	126	1	0.2
	131	132	1	0.11
	167	178	11	1.0
<i>incl</i>	170	171	1	4.5
	194	196	2	0.2
<b>22SSRC0009</b>	74	75	1	0.3
	88	92	4	0.3
<b>22SSRC0010</b>	24	25	1	0.1
	115	116	1	0.1
<b>22SSRC0011</b>	33	34	1	0.1
	37	41	4	0.2
	79	80	1	3.3
	82	84	2	0.3
	90	93	3	0.5
	99	102	3	1.9
	112	113	1	0.3
	116	120	4	1.0

Hole ID	Depth From	Depth To	Interval Width	Au g/t
	125	127	2	0.3
	168	169	1	0.1
	175	176	1	0.2
	185	187	2	0.3
<b>22SSRC0012</b>	22	23	1	0.1
	66	68	2	0.3
	148	149	1	0.1
<b>22SSRC0013</b>	62	64	2	0.4
	116	117	1	0.1
	172	173	1	0.2
<b>22SSRC0014</b>	75	76	1	0.2
	84	85	1	0.2
	96	99	3	0.4
	159	160	1	0.2
<b>22SSRC0015</b>	21	22	1	0.2
<b>22SSRC0017</b>	107	108	1	0.1
	118	119	1	0.1
	147	148	1	0.1
	158	159	1	0.2
	177	179	<b>2</b>	<b>2.0</b>
	225	237	<b>12</b>	<b>0.5</b>
<i>incl</i>	227	228	1	1.1
	244	245	1	0.3
	249	251	2	0.2
<b>22SSRC0018</b>	31	32	1	0.3
	40	41	1	0.1
<b>22SSRC0020</b>	170	171	1	0.1
<b>22SSRC0021</b>	117	119	2	0.8
	157	158	1	0.2
	171	173	2	3.4
<i>incl</i>	171	172	1	<b>6.3</b>
	175	176	1	0.1
<b>22SSRC0024</b>	66	67	1	0.4
	70	71	1	0.1
	139	140	1	0.2
<b>22SSRC0025</b>	52	53	1	0.2
<b>22SSRC0027</b>	55	56	1	0.2

## JORC Code 2012 Edition – Table 1

### Section 1 Sampling Techniques and Data

Criteria	Commentary
<b>Sampling techniques</b>	<ul style="list-style-type: none"> <li>• 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):               <ul style="list-style-type: none"> <li>○ For RC assay sampling, 1-3kg of sample was split from each 1meter 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.</li> <li>○ 4-meter comps via spear method and have been taken for the portion of the hole that is interpreted to not be within the main shear zone. The anomalous 4m samples may be assayed in 1m intervals. No reassays have been taken to date.</li> </ul> </li> <li>• 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 (CRM's) as assay standards, and blanks.</li> </ul>
<b>Drilling techniques</b>	<p>The drilling operation was undertaken by experienced drilling contractor iDrilling Pty Ltd.</p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• Holes orientations were surveyed using a Reflex-multi at 30m intervals.</li> </ul>
<b>Drill sample recovery</b>	<ul style="list-style-type: none"> <li>• 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%.</li> <li>• Wet RC samples are recorded in logs with only a small portion (5%) detected</li> </ul>
<b>Logging</b>	<ul style="list-style-type: none"> <li>• All RC drilling was logged at the rig by an experienced geologist.               <ul style="list-style-type: none"> <li>○ Lithology, veining, mineralisation, alteration, weathering and oxidation were recorded;</li> <li>○ Evidence for structural features is noted.</li> <li>○ RC logging is qualitative and descriptive in nature and representative portions of samples were retained in chip trays for future reference.</li> </ul> </li> </ul> <p>All data was recorded/logged in the field in Log Chief deposit and subsequently transferred to the electronic drillhole database (DataShed5).</p>
<b>Sub-sampling techniques and sample preparation</b>	<p>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.</p> <p>4-meter comps have been taken for the portions of the drilling. The anomalous 4m samples will be assayed in 1m intervals. All 4m assays have been received to date.</p> <p>Field duplicates were taken every 50 samples as a control on sample representivity.</p> <p>Sample size is regarded as appropriate</p>
<b>Quality of assay data and laboratory tests</b>	<ul style="list-style-type: none"> <li>• Assay technique is Fire assay and is regarded as total</li> <li>• Assaying of the RC drilling samples are being conducted by Bureau Veritas, Perth.</li> <li>• 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.</li> <li>• The fire assay gold analyses undertaken are considered a total assay method and is an appropriate assay method for the target-style mineralisation.</li> </ul> <p>Standard lab QC was also implemented as part of the geochemical testing protocol.</p>

Criteria	Commentary
	No geophysical tools have been applied to the samples, or down hole, at this stage.
<b>Verification of sampling and assaying</b>	<p>Results are verified by the geologist before importing into Datashed.</p> <p>No twin holes have been conducted</p> <p>Data is collected by tablet in the field and is imported into Datashed5.</p> <p>RC Field QC procedures involved the use of Certified Reference Materials (CRM's) as assay standards and blanks. Field duplicates were collected also undertaken.</p> <p>Assay data is reviewed prior to importing into Datashed no adjustments are made to raw assay files.</p>
<b>Location of data points</b>	<ul style="list-style-type: none"> <li>• All data location points referred to in this report are in:</li> <li>• Datum: Geodetic Datum of Australia 94 (GDA94) Projection: Map Grid of Australia (MGA)</li> <li>• Zone: Zone 51</li> <li>• All collar surveys were completed using handheld GPS (+/- 5m accuracy).</li> <li>• Drill rig alignment was attained using a handheld compass and verified with downhole surveys collected near-surface followed by approximately every 30m.</li> <li>• Downhole surveys were routinely carried out, generally on continuous measure, conducted using Reflex-multishot.</li> <li>• The 3D location of individual samples is considered to be adequately established and in line with industry standards for this stage of exploration.</li> <li>• Topography is nominal at this stage holes will be picked up using a DGPS in the future</li> </ul>
<b>Data spacing and distribution</b>	<ul style="list-style-type: none"> <li>• 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.</li> <li>• The RC drill holes were planned to test the extension or down plunge extension of the ore body.</li> <li>• Other RC drilling holes were designed over areas of interest from field mapping activities.</li> <li>• Sampling of RC cuttings has been undertaken at 1m intervals at areas of interest, appropriate high-grade mineralisation.</li> <li>• 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.</li> <li>• 4m sampling compositing has been applied to areas of less interest and for regional exploration holes.</li> </ul>
<b>Orientation of data in relation to geological structure</b>	<ul style="list-style-type: none"> <li>• The drill holes have been designed to cross cut the main lithology 250° to maximise structural, geotechnical and geological data.</li> <li>• No drilling orientation and/or sampling bias has been recognised at this time.</li> </ul>
<b>Sample security</b>	<ul style="list-style-type: none"> <li>• Logging has been carried out by GSN and contract personal who were always on-site during drilling.</li> <li>• No third parties have been allowed access to the samples.</li> <li>• Samples were shipped directly from site to a secure stored site in Laverton to undergo evaluation.</li> <li>• 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.</li> </ul> <p>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.</p>
<b>Audits or reviews</b>	No audits or reviews have been conducted.

## Section 2 Reporting of Exploration Results

Criteria	Commentary
<b>Mineral tenement and land tenure status</b>	The tenement E38/3501 is in good standing and was granted on February 17 2021. Great Southern Mining Ltd is the holder
<b>Exploration done by other parties</b>	Relevant exploration done by other parties are outlined in the body of this report or previous GSN ASX announcements.
<b>Geology</b>	Mineralisation at Sothern 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.
<b>Drill hole Information</b>	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.
<b>Data aggregation methods</b>	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.
<b>Relationship between mineralisation widths and intercept lengths</b>	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.
<b>Diagrams</b>	Relevant Diagrams are included in the body of this report.
<b>Balanced reporting</b>	All matters of importance have been included.
<b>Other substantive exploration data</b>	All relevant information has been included.
<b>Further work</b>	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.