ASX: GSN

ASX ANNOUNCEMENT

23 August 2021

High-Grade Gold at Depth at Southern Star

Highlights

- This second round of results from RC drilling at GSN's Duketon Gold Project, north of Laverton WA, reveal high-grade gold mineralisation at depth in multiple holes at the Southern Star Gold Deposit.
- Standout high-grade intersections from this second-round include intercepts in 10 new holes including:
    - **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
    - **9m @ 3.3 g/t Au** incl. **1m @ 24.9 g/t Au** from 124m; and
      7m @ 5.3 g/t Au incl. **3m @ 11.7 g/t Au** from 162m in 21SSRC0014
- These results are outside the previous known extent of near-surface gold mineralisation and open-up the underground potential for the Southern Star Gold Deposit.
- We are also reporting new near-surface assays received from 4m composite samples from the first 12 holes including:
    - **36m @ 1.1g/t Au** incl 4m @ **3.3 g/t Au** in 21SSRC003
    - **4m @ 6.1g/t Au** from 24m in 21SSRC011
    - **4m @ 3.8g/t Au** from surface in 21SSRC001
    - **4m @ 3.0g/t Au** from 32m in 21SSRC008
- These new 4m composites are outside-of and additional-to the intercepts recently reported to the ASX on 2/8/21 from the first round of 1m samples from the same 12 holes. For example:
    - **59m @ 2.1 g/t Au** incl. **9m @ 4.5 g/t Au** and **16m @ 3.2 g/t Au** from 53m in 21SSRC0009
    - **46m @ 1.2 g/t Au** incl. **11m @ 3.4 g/t Au** from 40m in 21SSRC00011
    - **19m @ 1.8 g/t Au** incl. **6m @ 3.9 g/t Au** from 64m in 21SSRC0001
    - **5m @ 2.7 g/t** Au incl. **2m @ 6.3 g/t Au** from 127m in 21SSRC0008
- First-pass RC drilling of regional exploration targets at One Weight Wonder, Ogilvie's, Erlistoun Queen, and Golden Boulder has just been completed and assays on these exciting prospects are pending.
- Based on today's results the RC drill rig has immediately returned to Southern Star for further drilling.

GSN's Chief Executive Officer, Sean Gregory, commented:

"Today's results include the highest-grade individual assay encountered to date of 92 g/t gold at Southern Star. The results clearly demonstrate the significance and potential of the deposit given the noted similarities to the much larger million-ounce open pit and underground gold mine at Rosemount and to the Ben Hur Deposit, both along strike on the same regional mineralised structure. The presence of these high-grade intersections at depth and outside of known zones of thick near-surface gold mineralisation give us the imperative to immediately follow up with more drilling".

Introduction

Great Southern Mining Limited (ASX: GSN) ("**GSN**" or the "**Company**") is pleased to announce the second round of results from its maiden Reverse Circulation (RC) drill program from the Southern Star Gold Deposit at its 100% owned Duketon Gold Project located 45km north of Laverton, Western Australia (Figure 1).

3,421m of RC drilling has been completed so far at Southern Star in GSN's maiden drill program. The purpose of this drilling has been to confirm the continuity of gold mineralisation and to extend the known mineralisation which is still open to the north, south and at depth. The second round of results reported here relate to 10 additional holes (1,240m) drilled at Southern Star which complement the first round of intercepts from 12 holes previously reported to the ASX on 2/8/21: "**59m** @ **2.1g/t** Gold Confirms Southern Star Potential".

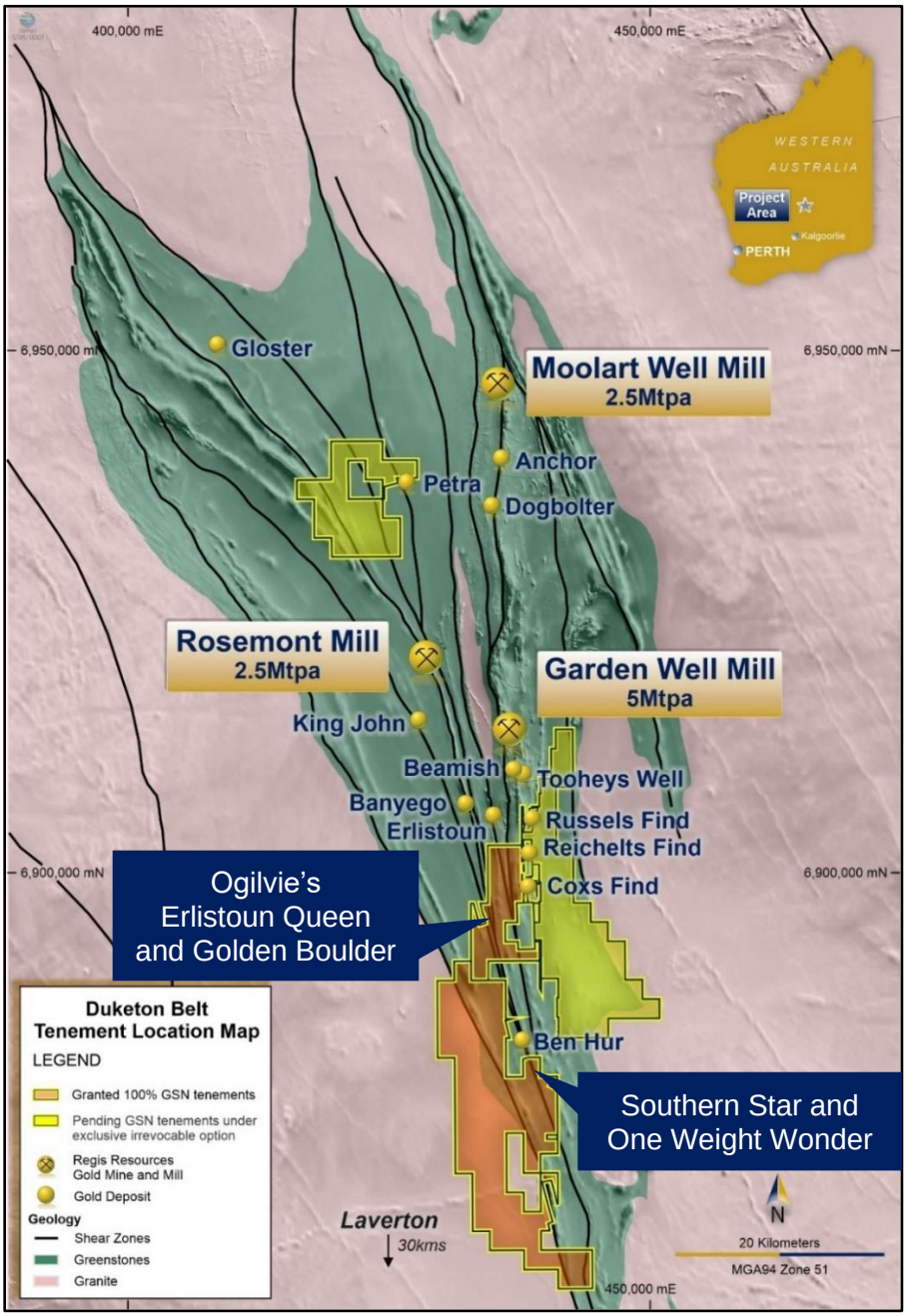

Figure 1 - Plan view highlighting GSN's large tenement package and prospects referred to in this announcement

Technical Discussion

Gold mineralisation at Southern Star is hosted in a steeply east-dipping 345°-trending quartz-dolerite unit which is approximately 80m wide. The drilling is designed to target the footwall of the quartz dolerite unit as this is where the primary lode is persistent and of high-grade. The high-grade mineralisation can be traced for over 500m of strike length and is open in all directions (Figure 2 and Figure 3).

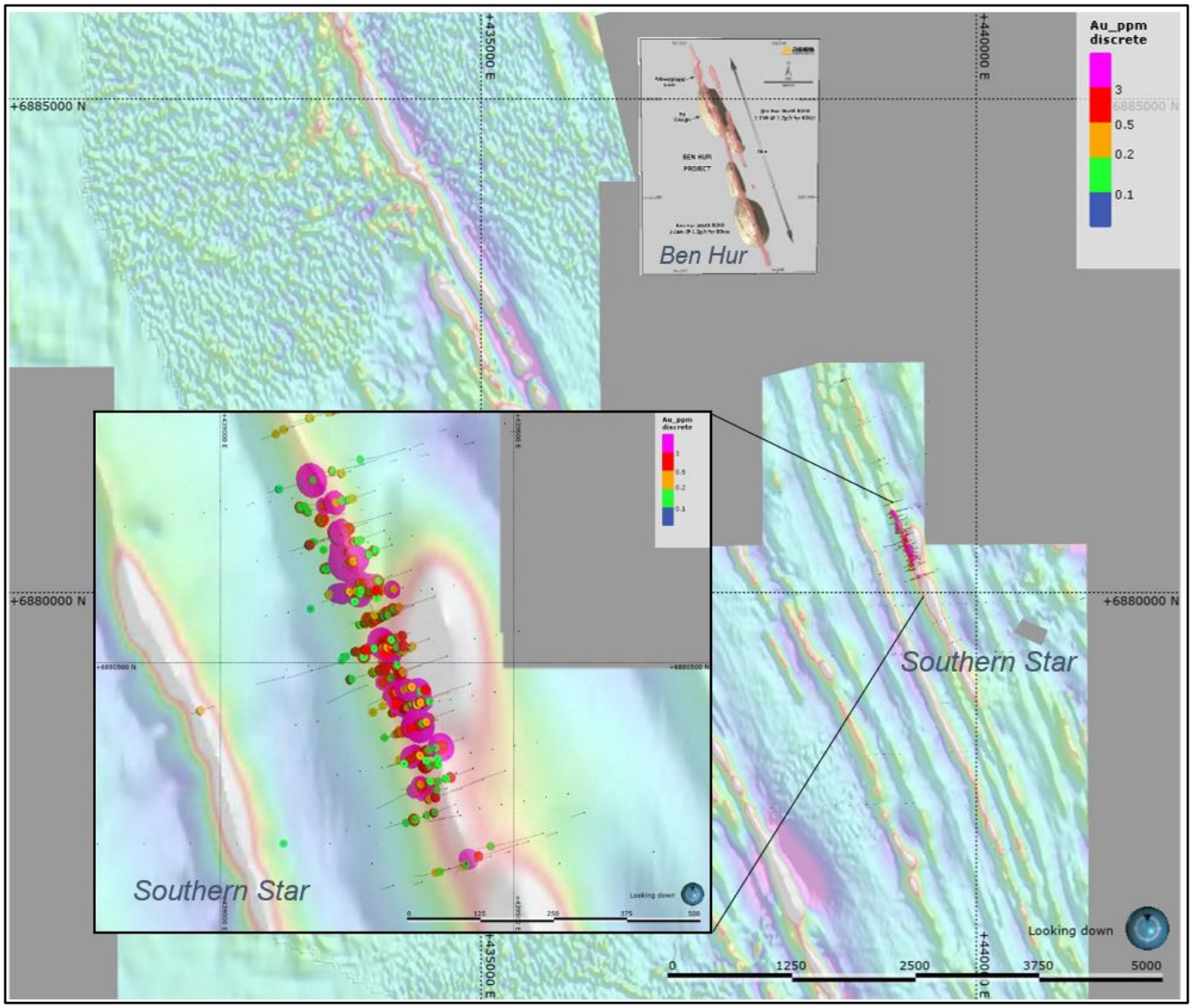

Figure 2 - Southern Star insert highlighting maximum gold downhole over newly acquired tenement with draped magnetic data (TMI1vd) highlighting the regional 345° trending stratigraphy that host both Ben Hur and Southern star deposits.

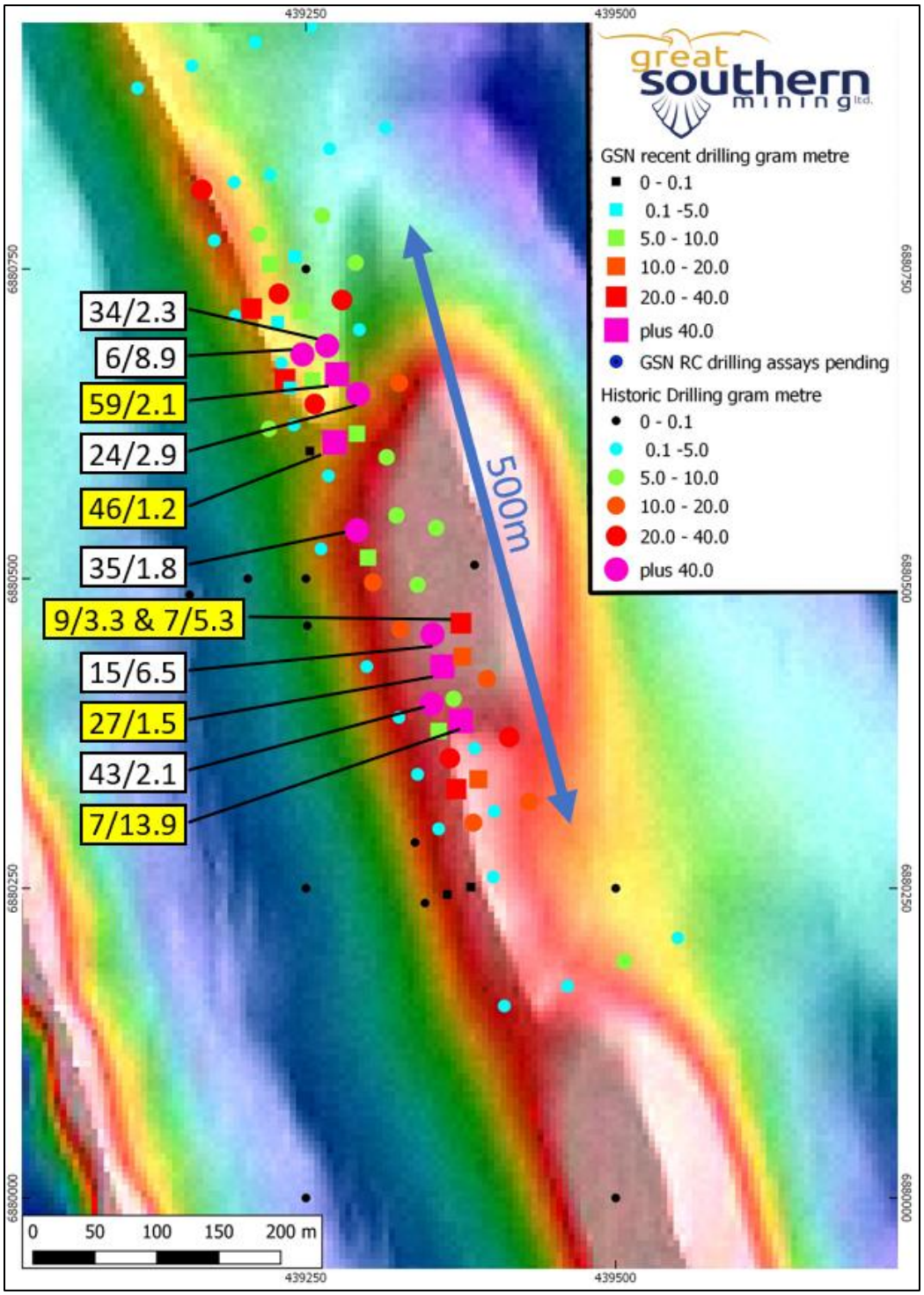

Figure 3 - Southern Star drilling highlighting gold downhole in gram-metres with callouts for plus 40-gram intersections (historic in white and recent in yellow; first number is metres/second number is gold grade in g/t) over magnetic data (TMI1vd)

Major shearing runs the length of the deposit with gold mineralisation being associated with quartz veining and sulphides within the fractionated dolerite unit. High-grade mineralisation has now been intersected in multiple holes at depth with hole 21SSRC0017 intersecting **7m @ 13.9 g/t Au** including an exceptionally high-grade interval of **1m @ 91.7g/t Au** from 123m (Figure 4). This hole is of particular interest as it is the highest-grade intersected to date at Southern Star in an area that was previously poorly drilled at depth. This demonstrates that further deeper drilling is warranted to understand mineralisation at depth.

Southern Star Long Section

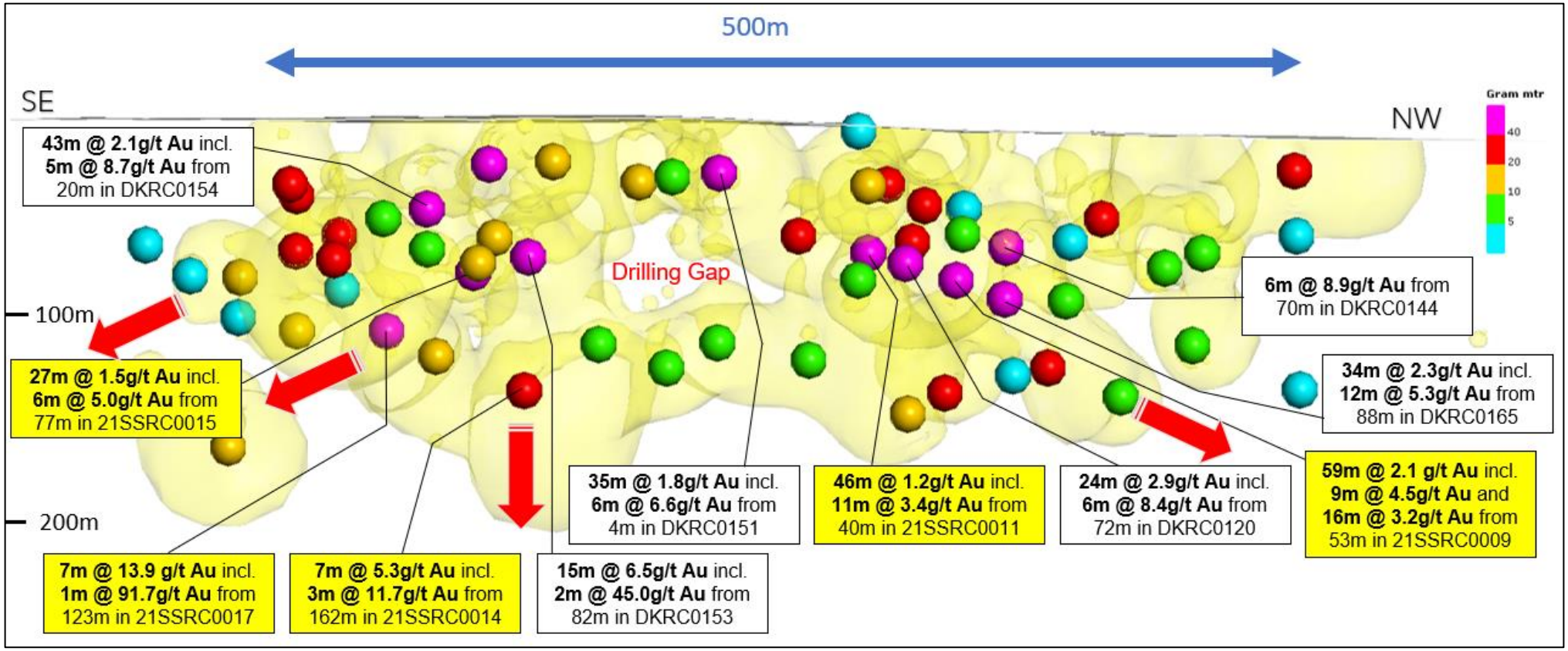

Figure 4 - Long section of Southern Star with pierce points of downhole intersections displayed in gram metres, highlighting the high-grade intersections of previous and recent drill intersections with the recent high-grade intersections at depth highlighted. The "Drilling Gap" is a sparsely drilled aera in the center of the deposit.

Drillhole 21SSRC0014 also intersected high-grade mineralisation at depth with multiple high-grade intersections of **9m @ 3.3 g/t Au** including **1m @ 24.9 g/t** Au from 124m and **7m @ 5.3 g/t Au** including **3m @ 11.7 g/t Au** from 162m. This hole demonstrates that the deposit may in fact have multiple high-grade shoots within the quartz dolerite unit and is also open at depth (Figure 5).

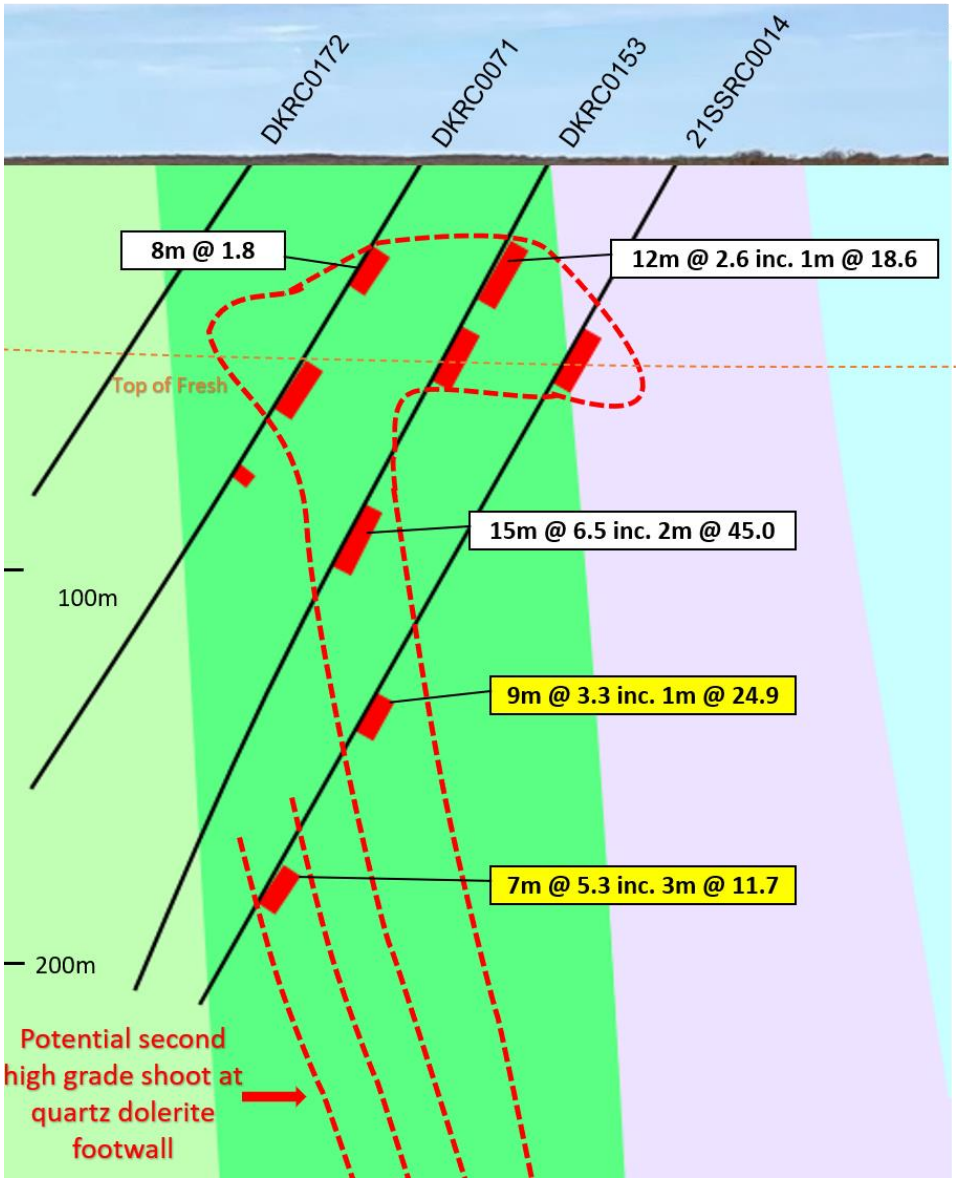

Figure 5 – Southern Star cross section. Red intervals illustrate gold mineralisation (>0.1 g/t Au)

Next Steps

4,999m of first-pass RC drilling of regional exploration targets at One Weight Wonder, Ogilvie's, Erlistoun Queen, and Golden Boulder has just been completed and assays on these exciting prospects are pending.

The mineralised 4m composites reported here from the first 12 holes will now be resampled at 1m intervals.

Based on the success of today's results the RC drill rig will immediately return to Southern Star for further drilling to test for strike extensions at Southern Star and also increase the drill density in the centre of the deposit which has seen sparse drilling to date (refer "Drilling Gap" in long section at Figure 4).

This announcement is authorised by the Executive Chairman on behalf of the Board of GSN.

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About Southern Star

The Southern Star Gold Deposit is part of GSN's Duketon Gold Project which encompasses over 450km^2 of tenements, and tenement applications under exclusive irrevocable option, located in the Duketon Greenstone Belt north of Laverton in Western Australia.

Southern Star was previously explored by Duketon Mining Limited in 2017-18 via a program that discovered significant high-grade gold mineralisation. Mineralisation is open both to the north, south and down dip. Previous high-grade intersections (refer ASX announcement 2/2/21) include:

- **15m @ 6.5 g/t Au** incl. **4m @ 23.3 g/t Au**
- **50m @ 1.8 g/t Au** incl. **5m @ 9.2 g/t Au** and **6m @ 2.9 g/t Au**
- **50m @ 1.6 g/t Au** incl. **17m @ 3.8 g/t Au**
- **34m @ 2.3 g/t Au** incl. **12m @ 5.3 g/t Au**
- **25m @ 2.5 g/t Au** incl. **5m @ 10.7 g/t Au**
- **35m @ 1.4 g/t Au** incl. **11m @ 2.9 g/t Au**
- **12m @ 4.0 g/t Au** incl. **8m @ 5.9 g/t Au**
- **26m @ 1.6 g/t Au** incl. **5m @ 6.3 g/t Au**
- **15m @ 2.2 g/t Au** incl. **4m @ 7.4 g/t Au**
- **20m @ 1.5 g/t Au** incl. **7m @ 3.5g/t Au**

Ben Hur Deposit Analogue

Southern Star is analogous to the nearby Ben Hur deposit and the Rosemont (>1Moz) open pit and underground gold mine, situated 4 and 24 kilometres north-west along strike respectively. Ben Hur has been the focus of Regis Resources' recent drilling efforts culminating in a Mineral Resource estimate 390kOz @ 1.2 g/t Au (Figure 6, refer to ASX:RRL announcement 6/4/21).

All three deposits are hosted within the same quartz dolerite unit which can be traced through the Duketon Belt (Figure 2). Both deposits display a very similar style of mineralisation, with the primary lode proximal to the sheared footwall of the quartz dolerite, with minor lodes forming parallel to it.

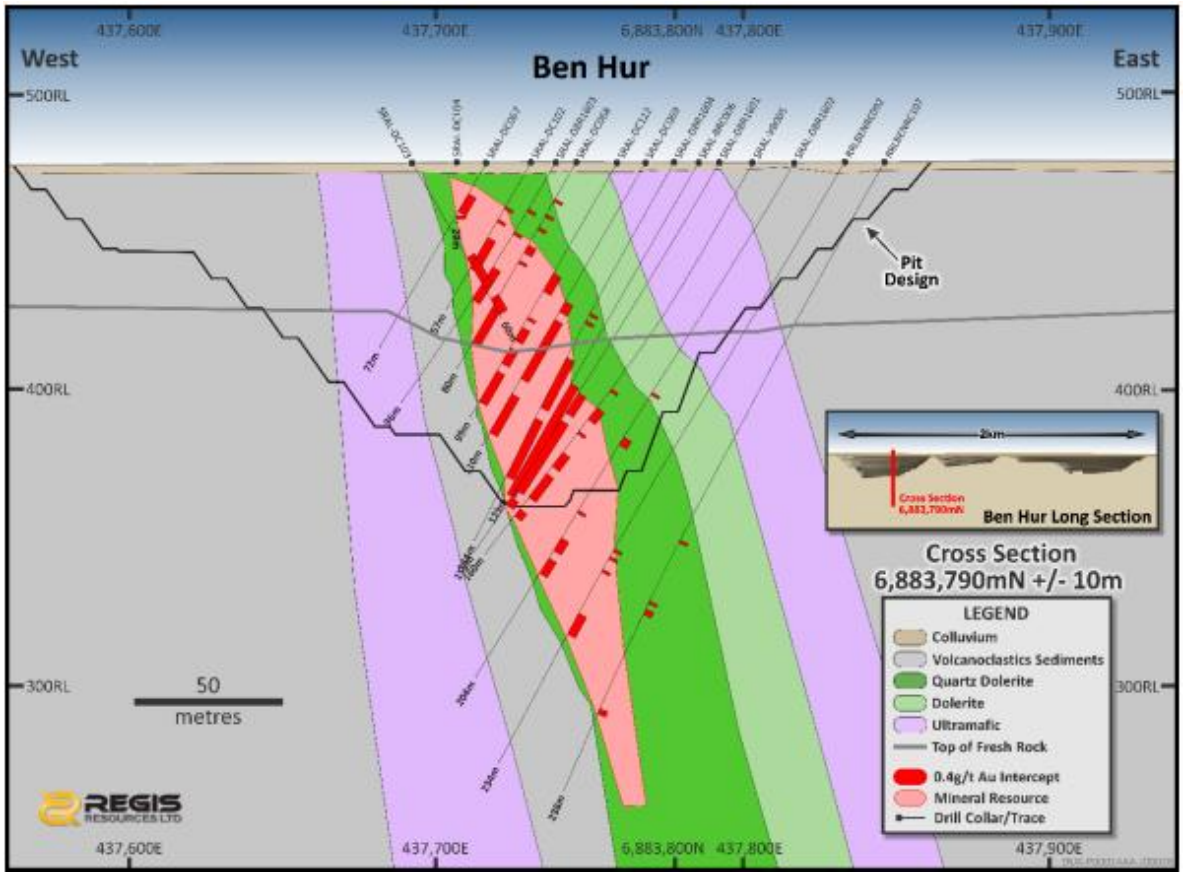

Figure 6 - Cross section 6883790mN of Regis Resources' Ben Hur deposit located only 4 km north-west and along strike of the Southern Star deposit highlighting gold mineralisation within the same quartz dolerite unit

About Great Southern Mining

Great Southern Mining Limited is a leading Australian listed gold exploration company wiith significant land holdings in the world-renowned gold districts of Laverton in Western Australia and Mt Carlton in North Queensland. All projects are strategically located within 25km of operating gold 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.

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 Exploration Manager WA 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
21SSRC0001	439233	6880661	-60	160	179
21SSRC0002	439206	6880718	-60	160	198
21SSRC0003	439221	6880754	-60	250	120
21SSRC0004	439241	6880760	-60	250	132
21SSRC0005	439227	6880707	-60	250	138
21SSRC0006	439246	6880716	-60	250	132
21SSRC0007	439237	6880654	-60	250	90
21SSRC0008	439255	6880660	-60	250	150
21SSRC0009	439275	6880665	-60	250	136
21SSRC0010	439253	6880603	-60	250	90
21SSRC0011	439273	6880610	-60	250	150
21SSRC0012	439291	6880617	-60	250	120
21SSRC0013	439300	6880517	-60	250	120
21SSRC0014	439375	6880464	-60	250	190
21SSRC0015	439360	6880429	-60	250	168
21SSRC0016	439357	6880377	-60	250	114
21SSRC0017	439375	6880385	-60	250	156
21SSRC0018	439376	6880437	-60	250	150
21SSRC0019	439371	6880330	-60	250	126
21SSRC0020	439389	6880338	-60	250	162
21SSRC0021	439364	6880245	-60	250	120
21SSRC0022	439383	6880251	-60	250	132

*Table 2 - Significant Intersections for Southern Star (Significant Intercepts are >1m @ 0.1g/t Au with a maximum internal dilution of 2 metre for intervals. * Indicates portion or all of the intersection contains 4m composites.*

Hole ID	Depth From	Depth To	Interval Width	Au g/t
21SSRC0013	0	4	4	0.57*
	24	45	21	0.4*
	73	75	2	0.7
21SSRC0014	36	56	20	0.2*
	71	77	6	0.2
	87	94	7	0.2
	102	106	4	0.3
	124	133	**9**	**3.3**
incl	127	130	**3**	**9.0**
incl	128	129	**1**	**24.9**
	162	169	**7**	**5.3**
incl	162	165	**3**	**11.7**
21SSRC0015	16	56	40	0.5*
	77	**104**	**27**	**1.5**
incl	**89**	**95**	**6**	**5.0**
	129	*132*	*3*	*0.4*
21SSRC0016	*28*	*41*	*13*	*0.5**
	59	63	**4**	**2.5**
	71	75	4	0.3
21SSRC0017	27	30	3	0.1
	36	39	3	0.1
	59	63	4	0.2
	69	71	2	0.3
	77	93	17	0.7
incl	80	81	**1**	**3.2**
	102	108	6	0.7
incl	105	106	1	1.7
	123	**130**	**7**	**13.9**
incl	**123**	**125**	**2**	**48.1**
incl	**123**	**124**	**1**	**91.7**
	142	144	2	0.6
21SSRC0018	49	56	7	0.2
	60	63	3	0.6
	68	73	5	0.2
	84	96	**12**	**1.1**

Hole ID	Depth From	Depth To	Interval Width	Au g/t
	98	108	10	0.2
	115	117	**2**	**1.6**
	122	126	4	0.4
21SSRC0019	33	48	**15**	**1.4**
incl	37	40	**3**	**3.2**
	58	59	1	0.4
	62	63	**1**	**1.2**
	77	85	**8**	**0.7**
incl	77	79	**2**	**2.1**
21SSRC0020	103	107	4	0.6
incl	106	107	1	1.3
	110	112	2	0.3
	116	128	**12**	**1.1***
incl	124	128	**4**	**2.8***
	152	154	2	0.2

Table 3 - Significant Intersections (previously announced) for Southern Star (Significant Intercepts are >1m @ 0.1g/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). New 4m composites samples in red.

Hole ID	Depth From	Depth To	Interval Width	Au g/t
21SSRC0001	0	4	4	3.8
	64	**83**	**19**	**1.8**
incl	64	70	**6**	**3.9**
incl	66	68	**2**	**9.1**
	84	88	4	0.1
	101	104	3	0.2
21SSRC0002	28	32	4	0.4
	40	48	8	0.6
	60	63	3	0.6
	69	81	12	1
incl	71	73	**2**	**3.9**
	84	98	14	1.1
incl	88	94	**6**	**2.1**
incl	88	91	**3**	**3**
	114	126	12	0.7
incl	122	126	4	1.5

Hole ID	Depth From	Depth To	Interval Width	Au g/t
incl	122	123	**1**	**3.7**
	140	178	**38**	**0.6**
incl	175	177	**2**	**4.5**
	181	188	7	0.3
21SSRC0003	4	40	36	1.1
incl	28	32	4	3.3
	70	76	6	0.3
	78	85	7	0.6
incl	82	83	**1**	**2.9**
	88	90	2	0.3
21SSRC0004	55	57	2	0.2
	70	73	3	0.1
	78	85	7	0.3
incl	84	85	1	1.2
	106	108	2	0.3
21SSRC0005	36	40	4	0.5
	48	52	4	0.3
21SSRC0006	20	28	8	0.7
	59	63	4	0.2
	66	67	1	1.3
	85	88	3	0.4
	92	93	1	0.4
	98	102	4	1.4
incl	100	101	**1**	**4.3**
	104	105	1	0.7
	120	122	2	0.3
21SSRC0007	79	83	4	0.2
21SSRC0008	32	36	4	3.0
	40	44	4	0.7
	51	58	7	0.3
incl	57	58	1	1.0
	60	72	12	0.5
incl	61	65	4	0.8
	127	132	**5**	**2.7**
incl	129	131	**2**	**6.3**
21SSRC0009	44	45	**1**	**4.8**
	53	112	**59**	**2.1**

Hole ID	Depth From	Depth To	Interval Width	Au g/t
incl	57	98	**42**	**2.8**
incl	57	66	**9**	**4.5**
and	82	98	**16**	**3.2**
21SSRC0011	24	28	4	6.1
	40	86	**46**	**1.2**
incl	69	80	**11**	**3.4**
incl	69	71	**2**	**13.7**
	131	133	2	0.4
21SSRC0012	20	23	3	0.3
	56	61	5	0.7
	75	92	17	0.4
	96	107	10	0.5
	113	119	6	0.8
	117	118	**1**	**2.5**

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 plastic bags (15-35 kg of sample material):
	  ○ 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.
	  ○ 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.
	• RC samples were collected and submitted for analysis at Bureau Vertas in Perth for Fire assay analysis. Field QC procedures involved the use of Certified Reference Materials (CRM's) as assay standards, and blanks.

Drilling techniques	The drilling operation was undertaken by experienced drilling contractor PXD 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.

Criteria	Commentary
	○ 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. 4-meter comps have been taken for the portions of the drilling. The anomalous 4m samples will be assayed in 1m intervals. 4m assays have been received to date and are anomolus values have been highlighted in Table Field duplicates were taken every 50 samples as a control on sample representivity. 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.
Verification of sampling and assaying	Results are verified by the geologist before importing into Datashed. No twin holes have been conducted 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-multishot. • 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. I • 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 field mapping activities. • Sampling of RC cuttings has been undertaken at 1m intervals at areas of interest,

Criteria	Commentary
	appropriate high-grade mineralisation. • 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. • 4m sampling compositing 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 cross cut the main lithology 250° to maximise structural, geotechnical and geological data, with the exception of 21SSRC0001 and 21SSRC0002. • 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 E38/3501 is in good standing and was granted on February 17 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.

Criteria	Commentary
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.