7 KM GEOCHEMICAL GOLD ANOMALY DEFINED WEST OF SOUTHERN STAR

Highlights

- **A recent soil sampling program has defined a 7 km long gold anomaly directly west of the Southern Star prospect, within the Duketon Gold Project**
- **GSN interprets the anomaly to be along the same geological trend that hosts Regis Resources' ~390 Koz Ben Her gold deposit, located approximately 3 km to the north**
- **Drilling is due to recommence shortly and will test selected zones within this newly identified anomalous trend, as well as extensions to the main zone of mineralisation at Southern Star, which includes previous intercepts:**
    - **68m @ 1.9g/t Au from 61m, incl. 4m @ 15.3g/t Au**
    - **69m @ 1.1 g/t Au from 39m, incl. 10m @ 3.5g/t Au**
    - **59m @ 2.1g/t Au from 53m, incl. 9m @ 4.5g/t Au**
    - **17m @ 7.0g/t Au from 11m, incl. 1m @ 109.0g/t Au**

Great Southern Mining Limited (ASX: GSN) ("**GSN**" or the "**Company**") announces that a recently completed soil geochemical survey at the Southern Star prospect, part of the Duketon Gold Project, has delineated a 7-kilometre long surface gold anomaly (Figure 1). The anomaly is situated directly west and parallel to the main zone of mineralisation at Southern Star, which has been defined over a 700-metre strike and to a depth of approximately 140 metres. Southern Star remains open in nearly all directions.

Drilling at Southern Star is scheduled to recommence shortly. A targeted reverse circulation (RC) program has been planned to test extensions to the main zone of mineralisation, as well as selected zones within the newly defined western soil anomaly. Importantly, this new western trend has not been drilled historically.

GSN's Managing Director, Matthew Keane, commented:

"The GSN team are highly encouraged by this new geochemical gold anomaly west of Southern Star. We have theorised for some time that this trend sits on the same stratigraphic horizon as Regis' Ben Hur deposit to the north. A few factors have now lined up which makes this a compelling drilling target. Firstly, the trend sits on a significant shear zone, identified in both aeromagnetics and in surface outcrop. Secondly, the trend sits within a favourable geological setting, on the contact of an ultramafic unit and associated with a porphyry intrusion, which is common to several sites in the Duketon Belt that host significant gold deposits".

GSN welcomes comments and queries relating to this announcement on our Investor Hub site, where Company management can answer your questions directly (GSN Investor Hub link).

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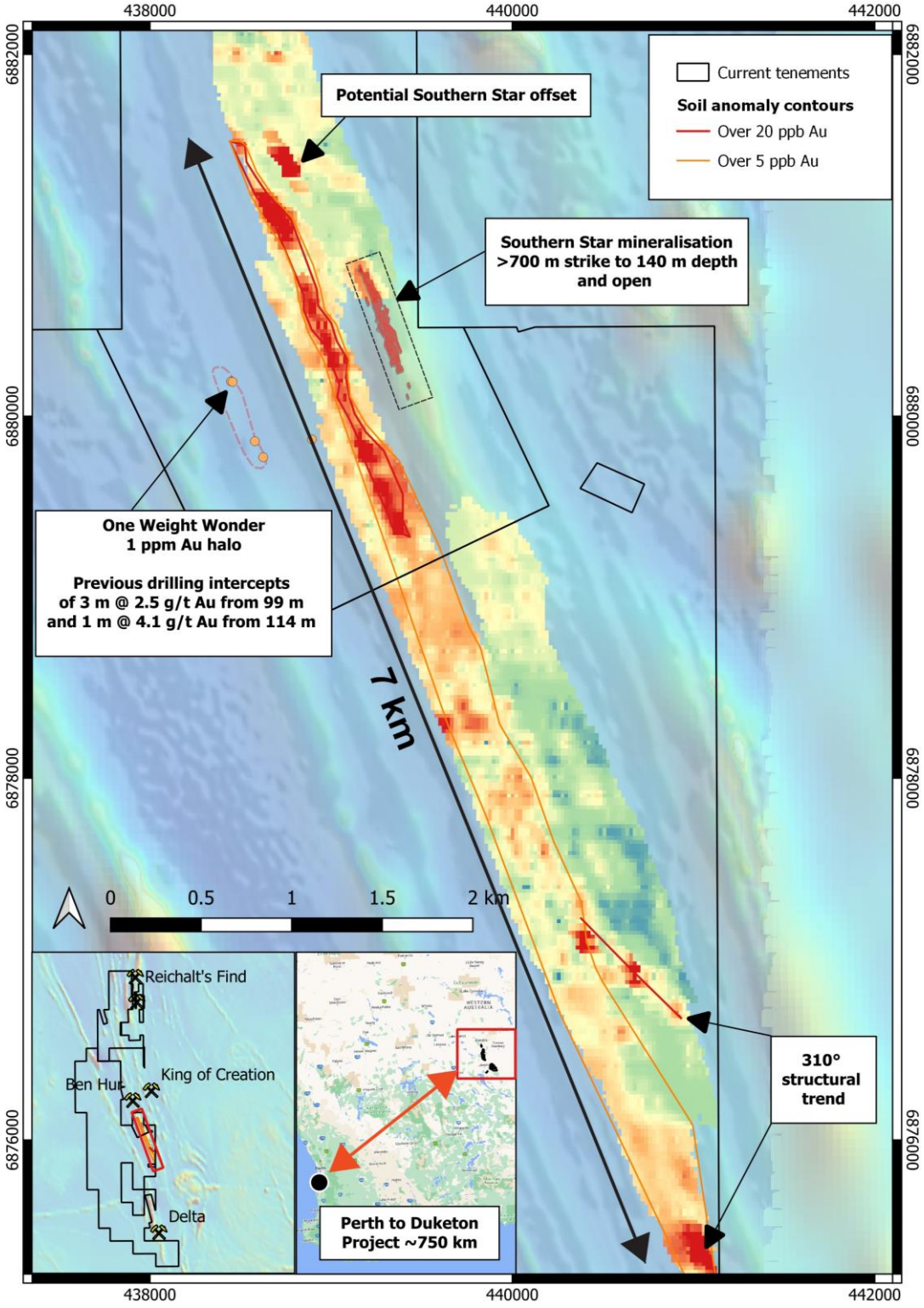

Figure 1. Geochemical heat map showing gold anomalism from a recent soil survey underlain by aeromagnetic imagery. Results of the recent survey, conducted along a stratigraphic trend west of the main Southern Star prospect, have been merged with previous geochemical surveys in the area, showing a distinct 7 km anomalous trend. The image also shows the One Weight Wonder prospect and another geochemical gold anomaly to the north of Southern Star, which may be a fault offset of the main Southern Star mineralisation.

Interpretation

GSN conducted a soil geochemical survey over an area directly west and running parallel to the Southern Star prospect. The survey targeted a lithological contact between an ultramafic unit and sediments, intruded by a monzogranite porphyry. The intrusion of the monzogranite porphyry is thought to indicate a deep-seated structural source. Aeromagnetic interpretation and field mapping also identify a probable structure to be coincident with the lithological contact (striking approximately 345º). This lithological contact is interpreted by GSN to lie along the same stratigraphic trend that hosts the Ben Hur mineralisation to the north.

Analysis of the sample results identified a gold-in-soil anomaly (over 5 ppb) extending at least 7 km, but open to the north where the survey ended (Figure 1). To put this anomaly in context, Regis Resources' +3 Moz Garden Well deposit was defined by a plus 3 ppb gold anomaly with a 2.5 kilometres strike and 900 metre width (Figure 2).

Within the 7 km anomalous zone is a higher grade 2.5 kilometre gold anomaly of over 20 ppb gold-in-soil, with individual results up 143.7 ppb gold. This zone is also open to the north.

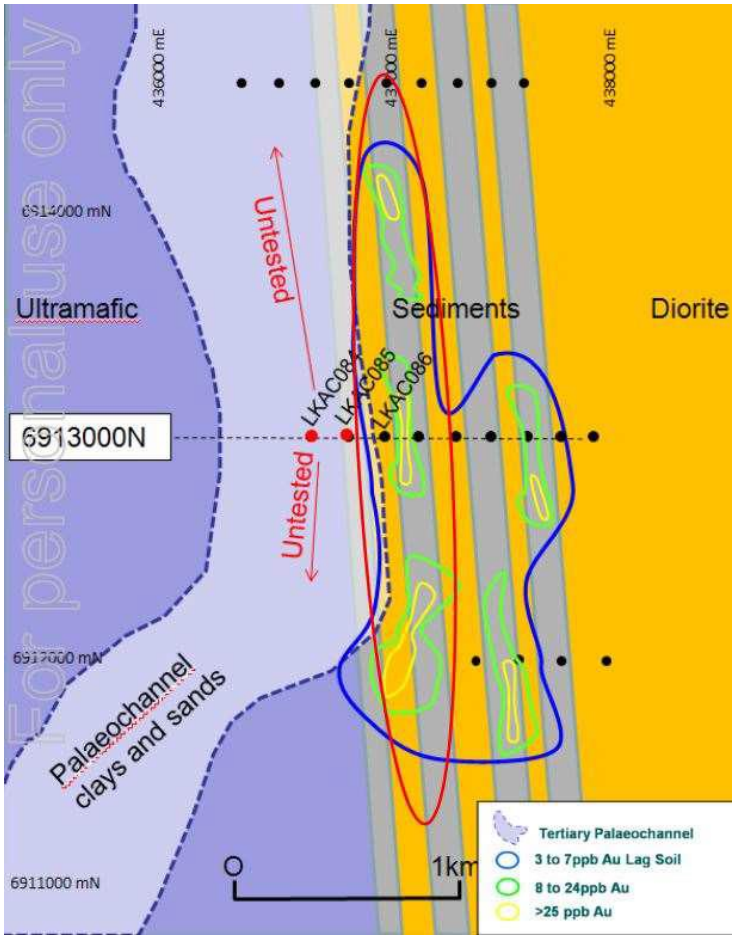

Figure 2. Gold-in-soil results from Garden Well for context. The figure shows that a 3 ppb anomaly was used to illustrate Garden Well after its discovery with contour values of 8 ppb to 24 ppb and greater than 25 ppb. Refer to Regis Resources presentation release dated 8 February 2010.

Further, within the broader plus 5 ppb anomaly, two further higher-grade zones occur on a ~310º orientation (located south of the 2.5 kilometre plus 20 ppb anomaly). Oblique intersections of ~345º stratigraphy/structures and ~310º structures are known to host mineralisation elsewhere in the Duketon Belt. The ~310º soil anomalies have a different multi-element signature to the larger anomalous trend and are thus interpreted to be attributed to separate mineralisation events.

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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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 (Figure 3) and Mt Carlton in north Queensland, all projects are located within 40km of operating mills and major operations.

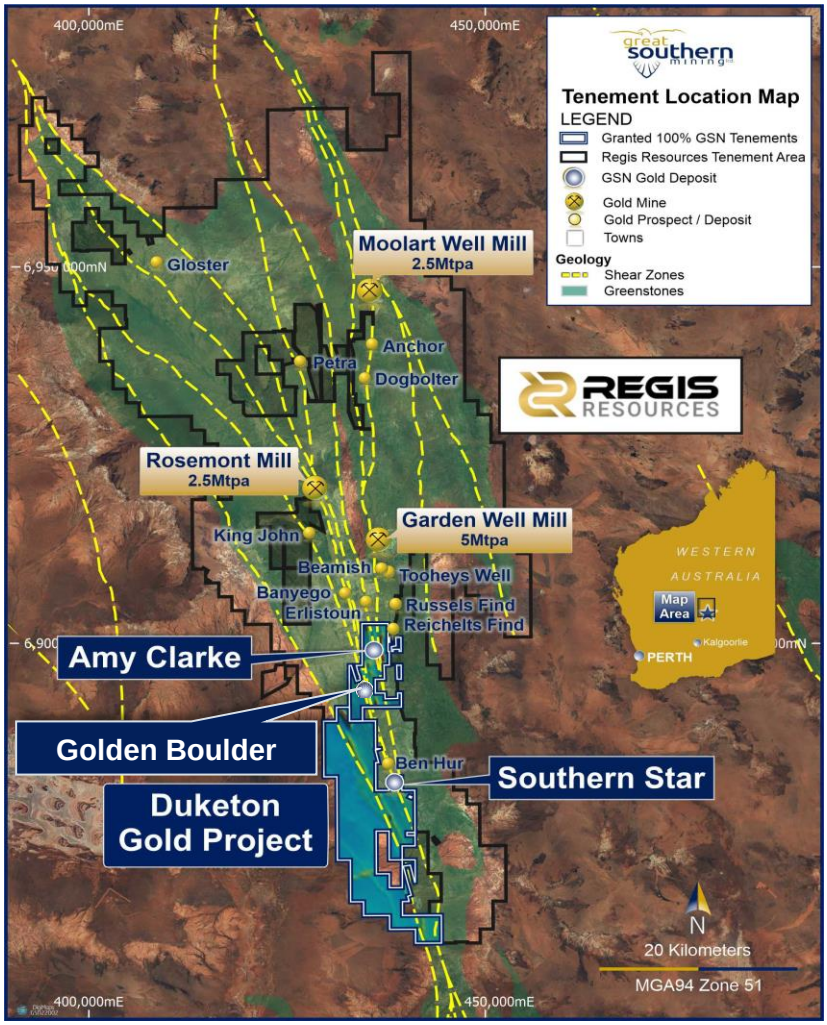

Figure 3. Plan view of GSN's tenement holding in the Duketon Gold Belt highlighting the locations of prospects and proximity to Regis' Garden Well, Rosemont and Moolart Well mills. Mineralised gold trends are in delineated in yellow.

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.

JORC Code 2012 Edition – Table 1

Section 1 Sampling Techniques and Data

Criteria	Commentary
Sampling techniques	The recent soil program was undertaken in August 2023 covering an area west of the known mineralisation trend at Southern Star (refer Figure 1). Samples were taken from the B-horizon below the organic layer (~10 cm to 30 cm BS) on 100 m wide line spacing 25 m apart with some lines extended over areas of interest. The field sampling procedure followed the CSIRO UFF+ recommended procedure with soils sieved in the field to 1.6 mm and minimum 200 g sample then sent to the Labwest laboratory in Perth where the >200g sample is added to deionised water to which sodium hexametaphosphate is added as a dispersant. The sample is rolled for 24 hrs, followed by up to 4 hrs settling. A solution containing the 2-micron particle size is drawn from the solution, 0.2 g of the 2-micron fraction is analysed for gold and multi-elements using microwave assisted aqua regia digest. Analysis is completed by ICP-MS/OES. This program will be referred to as "(2023)" from here on. The newly acquired data was then merged with soil data from previous sampling campaigns collected in 2022. Samples were taken below the organic layer (~10 cm to 30 cm BS) on 100 m wide line spacing 50 m apart with some lines extended over areas of interest. Samples were sieved in the field to 1.6 mm and approximately 1 kilogram sample was then sent to the ALS laboratory in Perth where it was mechanically sieved down to the fine fraction portion (180 microns) and was assayed for gold and 48 other elements using ME-MS61. This program will be referred to as "(2022)" from here on.
Drilling techniques	No drilling reported.
Drill sample recovery	No drill recovery was reported.
Logging	Soil sample site sites are described noting regolith regime and sample depth. Rock descriptions are also taken.
Sub-sampling techniques and sample preparation	Sample preparation of Great Southern Mining samples follows industry best practice standards at accredited laboratories. Samples were sieved in the field to 1.6 mm and approximately 200 g (2023) or 1 kg (2022) sample was then sent to the LabWest (2023) or ALS (2022) laboratory in Perth, where the 2-micron fraction was roll separated (2023) or mechanically sieved down to the 180-micron fraction (2022). Sieves were cleaned thoroughly between samples; no duplicates or field standards were taken due to the early stage of exploration. Samples were taken from the B-horizon below the organic layer (~10 cm to 30 cm BS) to ensure in-situ material. Sample size of >200 g (2023) or ~1kg (2022) is deemed appropriate for fine fraction soil survey.
Quality of assay data and laboratory tests	**2023:** Samples were submitted to LabWest for processing and analysis with standards being inserted by the company in-house. LabWest is a commercial independent certified laboratory in Perth, Western Australia. The -2 µm fraction of the soil samples were analysed for Ag, Al, As, Au, Ba, Be, Bi, Ca, Cd, Ce, Co, Cr, Cs, Fe, Ga, Ge, Hf, Hg, In, K, La, Li, <g, Mn, Mo, Nb, Ni, Pb, Pt, Rb, Re, S, Sb, Sc, Se, Sn, Sr, Ta, Te, Th, Ti, Tl, U, V, W, Y, Zn, and Zr via LabWest's Ultrafine + microwave digest with an ICP OES/MS finish. Quality control procedures for the soil analyses include the insertion of laboratory in-house controls, blanks and duplicates. The assaying techniques and quality control protocols used are considered appropriate for the data to be used for reporting exploration soil geochemistry results. **2022:** Assay technique is Aqua regia and is considered partial and is an appropriate assay method for the program. No geophysical tools have been applied to the samples, or down hole, at this stage. No QC was reported. Soil samples were submitted to ALS Perth, Au by aqua regia extraction with ICP-MS finish using Au TL44 (50gm sample) trace level methods by aqua regia digestion and ICP-MS finish are excellent for regolith, where gold anomalies indicating mineralisation below surface are well-characterised. Aqua regia dissolves native gold as well as gold bound in sulphide minerals; however, depending on the composition of the soil, gold determined by this method may or may not match recovery from fire assay methods. Forty-eight multielement super trace package ME-MS61 was used where ALS has lowered the detection limits on key pathfinder elements such as As, Sb, Se and Tl to near or below average crustal abundance, revealing anomalous patterns at levels previously unattainable due to technical limitations.

Criteria	Commentary
Verification of sampling and assaying	No drilling is reported. In 2023, primary soil data was collected in the field in QField, before being synchronised with MS SQL database via MaxGeo's Logchief data entry platform. In 2022, primary soil sampling data was collected in hard copy and entered into excel spreadsheets before being transferred to the master SQL database. No assay data has been adjusted.
Location of data points	All sites are in MGA94 – Zone 51 grid coordinates using a hand-held GPS +/- 3m. Topographic control in nominal.
Data spacing and distribution	Data spacing is variable see plans in report, in general samples were taken on 100 m x 25 m line spacing (2023) and 100 m x 50 m (2022) with some lines extended over areas of interest. No composite sampling was undertaken.
Orientation of data in relation to geological structure	No sample bias has been detected at this stage. No drilling orientation and/or sampling bias has been recognised at this time.
Sample security	**2023:** Samples are collected in paper geochemistry bags and delivered directly from site to the assay laboratories in Perth by a GSN employee. **2022:** Samples are collected in polyweave bags and delivered directly from site to the assay laboratories in Perth by a GSN employee.
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 tenements M38/1299 and E38/3501 are in good standing and have been granted. 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 Southern 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 prospect is hosted in a fractionated dolerite sill, overturned and younging to the west that is over 100 m wide in areas. Within this dolerite sill the most fractionated part, a quartz-magnetite rich unit up to 80 m wide, appears to be the preferential host of the gold mineralisation. Geology underlying the Southern Star Western Trend is interpreted to comprise an altered ultramafic-sediment contact intruded by the felsic porphyry.
Drill hole Information	No drillhole information reported. No material information has been excluded.
Data aggregation methods	Soil samples are reported only. Metal equivalent values are not reported.
Relationship between mineralisation widths and intercept lengths	No drilling results reported.
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 follow-up reverse circulation (RC) drilling. Diagrams highlight the areas of interest for follow-up work. Further work is described and contained within the body of the announcement.