

ASX ANNOUNCEMENT

28 September 2021

Large Gold Anomalies at Amy Clarke Set for Drill Testing

Highlights

- Large, kilometre-scale, gold in soil anomalies identified following a recent regional soil survey program at Amy Clarke in an area only ever sparsely RAB drilled to a maximum of 9m depth in 1996.
- High-grade gold in soil trends identified 3km south along the same mineralised trend that hosts the plus 300,000-ounce Erlistoun gold deposit owned by Regis Resources Limited (ASX: RRL).
- Gold anomalies have excellent correlation with immobile pathfinder elements which suggest the source of the gold anomalies is close by.
- Scale and magnitude of anomalies is similar to the surface expression of million-ounce gold deposits in the Duketon district such as Garden Well.
- A 10,000m Air Core (AC) drilling program has been planned and approved. A drill rig is secured to complete the program later this year.

Great Southern Mining Limited (ASX: GSN) (“**GSN**” or the “**Company**”) is pleased to announce the results of a multi-element soil survey conducted over one of its regional targets in the Duketon Greenstone Belt named Amy Clarke, located 60km north of Laverton, Western Australia (see Figure 1).

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

“Further to the highly successful RC exploration drilling programs at the Duketon Gold Project, the Great Southern Geological team continues to generate excellent new targets. We are excited by these compelling kilometre-scale soil anomalies that have been generated from the recent soil program at Amy Clarke. It is remarkable that this area has not been drilled since 1996 when sparse, vertical and shallow Sons of Gwalia drill holes ended in quartz hosted gold mineralisation. The large footprint of these anomalies is not dissimilar in scale or tenor of the soil anomaly that led to the discovery of the nearby two-million-ounce Garden Well gold deposit. We have secured an Air Core drill rig for 10,000m to advance this Project up the exploration pipeline.”

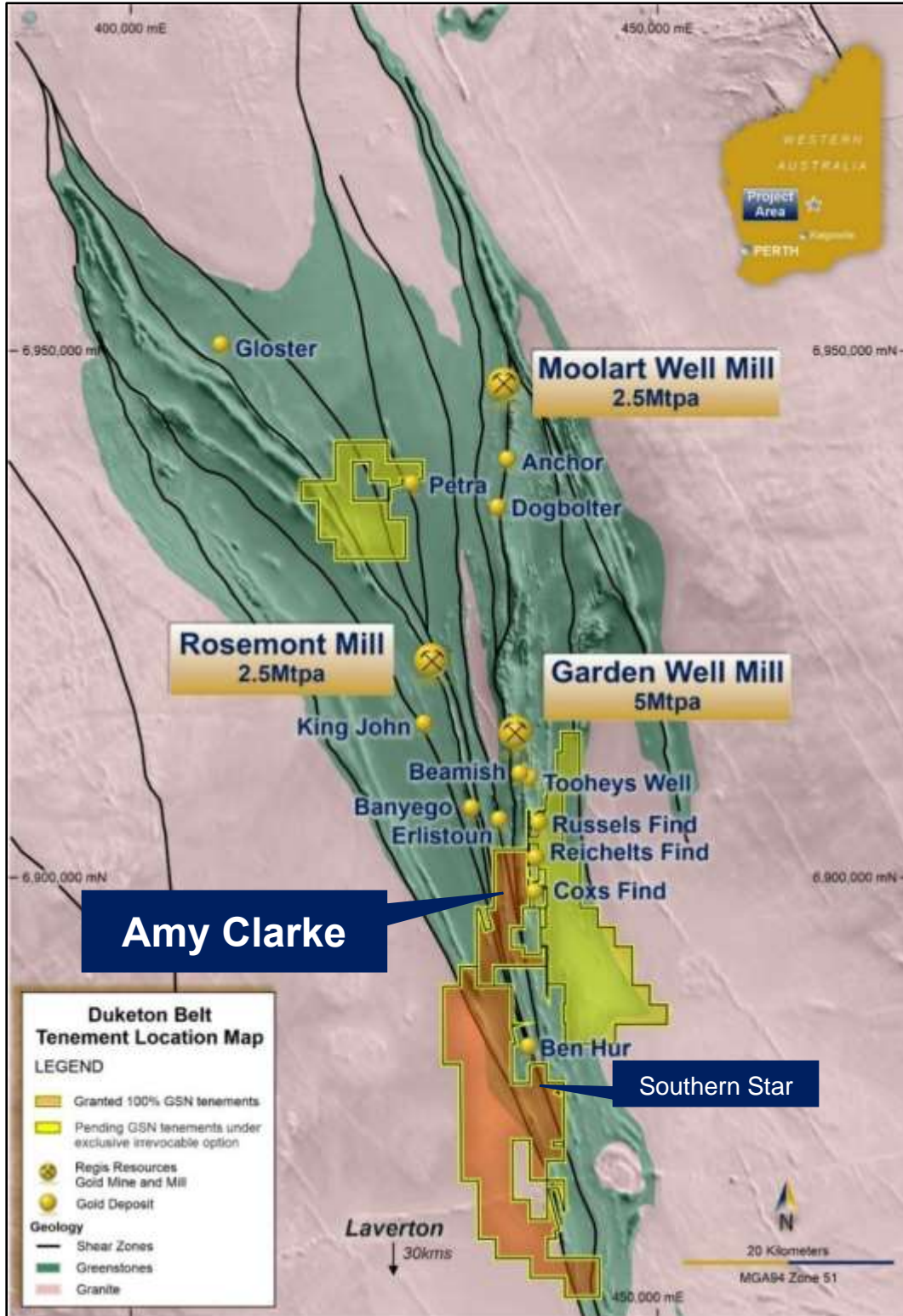


Figure 1 - Plan view highlighting GSN tenure and the Amy Clarke location.

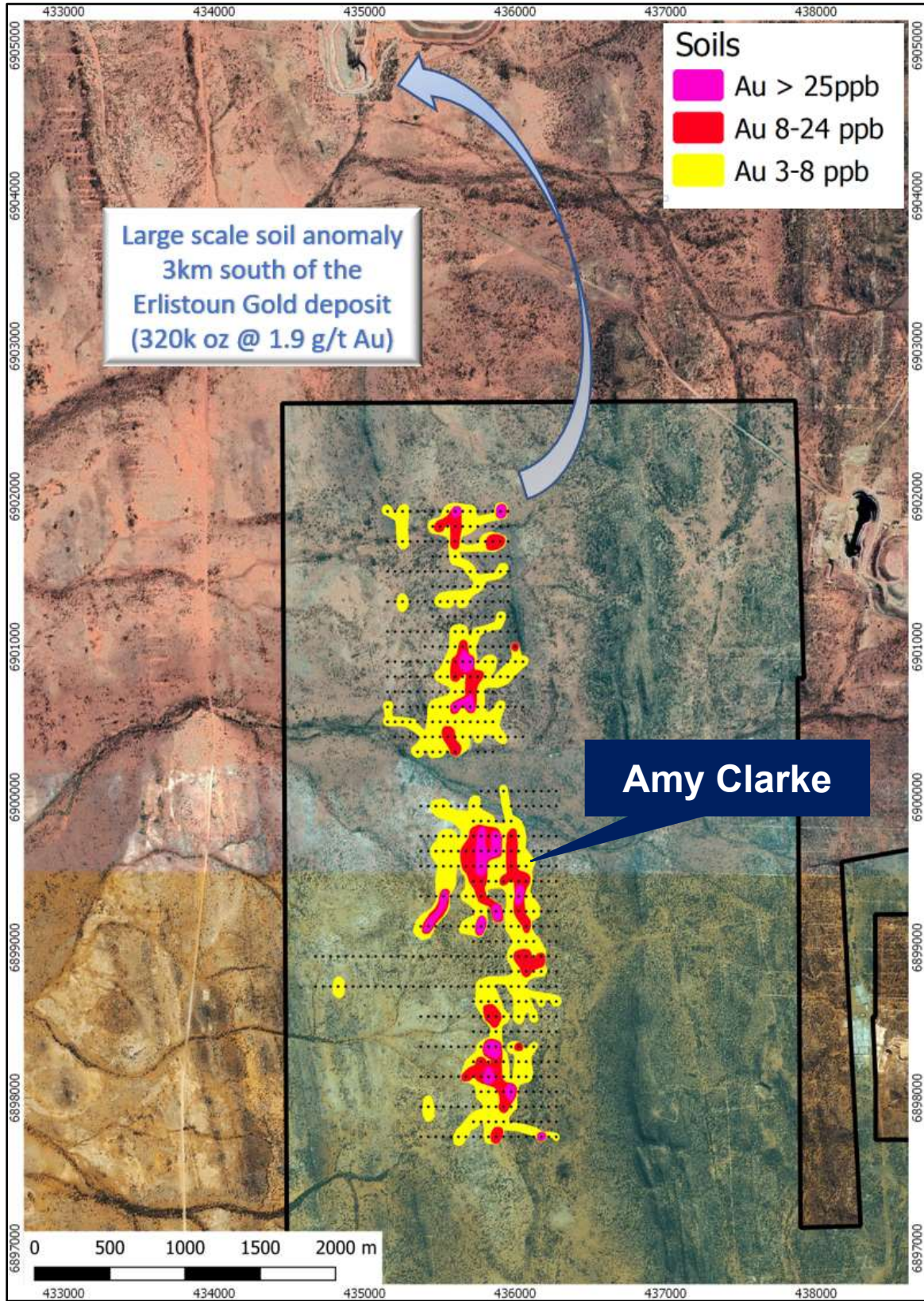


Figure 2 - New soil anomalies at Amy Clarke highlighting the scale and coherent zoning of the gold in soil values in close proximity to the Eristoun Gold deposit.

Technical Discussion

Kilometre-scale gold in soil anomalies have been delineated with coherent higher responses (plus 8ppb Au) detected within the centre of the broader halo (Figure 2). The soil anomaly strikes almost the entire 4.3km survey area with distinct clusters of higher response forming 'hotspots' up to 400m in width and 700m long. Twenty-one soil sites returned gold values higher than 25ppb gold and six sites returned greater than 100ppb gold with the peak sample of 690ppb gold.

The 649-soil sample program was undertaken in two phases during May-June this year covering a 4.3-kilometre long and 900m wide area over a prospect area known as Amy Clarke. Samples were taken on 100m wide line spacing 50m apart with some lines extended over areas of interest. Samples were sieved in the field to 1.6mm and an approximate 1 kilogram sample was then sent to the laboratory for further preparation and assayed for gold using trace level detection. Trace level methods by aqua regia digestion and ICP-MS finish are excellent for regolith, used to detect gold anomalies indicating mineralisation below surface. By sampling the fine fraction (180 microns), it is intended to aid in detecting gold anomalies through the thin cover that is found within the project area (Figure 3).

The positioning of the soil anomalies is of particular interest as the anomalies reside in a magnetic low feature housed on each flank by distinct magnetic high features which are conspicuous land features of Banded Iron Formation (BIF) ridges in the area. The magnetic low channel can be traced north to the Erlistoun gold deposit and is interpreted to be the same granodiorite rock that host the 322 koz @ 1.9g/t Erlistoun deposit owned by Regis Resources Limited (Figure 4, Refer ASX: RRL Announcement 18/1/11).

Cross cutting secondary structures have been interpreted, represented as breaks in the magnetic high features on the total magnetic intensity data. These north-eastern structures are believed to act as fluid traps which aids in localising mineralisation and commonly occur proximal to large gold deposits in the Duketon Belt. Two cross cutting features have been identified at Amy Clarke and have a proximal relationship to the gold in soil anomalies like seen at the Erlistoun gold deposit (Figure 4).



Figure 3 - GSN geologist inspecting one of the limited outcrop locations of granodiorite at Amy Clarke, interpreted to be the same unit that hosts the Erlistoun deposit to the north.

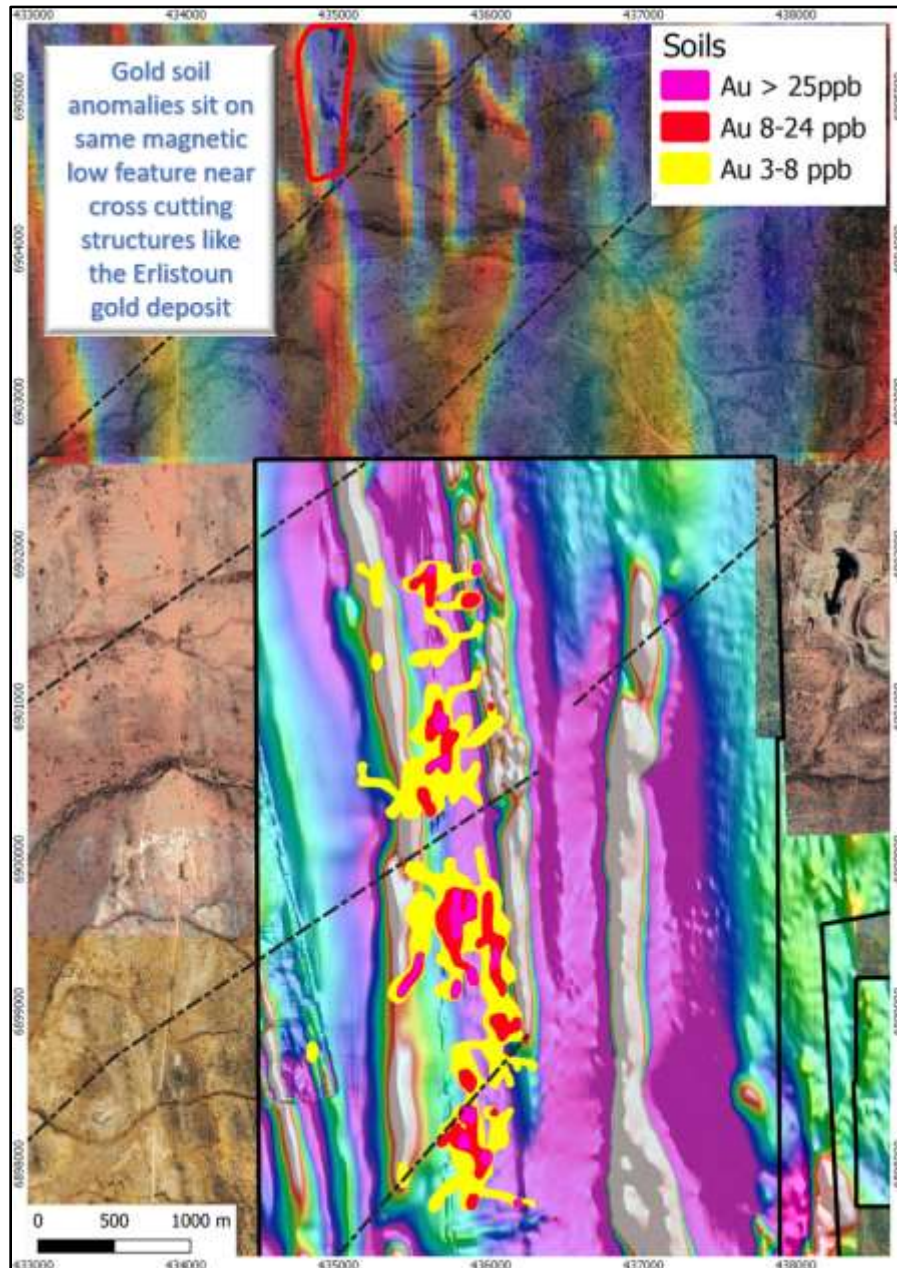


Figure 4 - Soil anomalies at Amy Clarke over TMI magnetic data highlighting the similar position of the Eristoun gold deposit relative to the magnetic low channel and cross cutting north-east structures.

Pathfinder Elements

Soil samples were assayed for 48 other elements to aid in lithogeochemical analysis and to identify any pathfinder element association with gold anomalies. Arsenic, tungsten and bismuth all showed excellent correlation with the gold in soil anomaly with concentration towards the centre 'hotspots'. Gold association with pathfinder elements such as tungsten and bismuth indicate that the source of the anomalies is less likely to be transported as these elements are less mobile within the weathering regime (Figure 5).

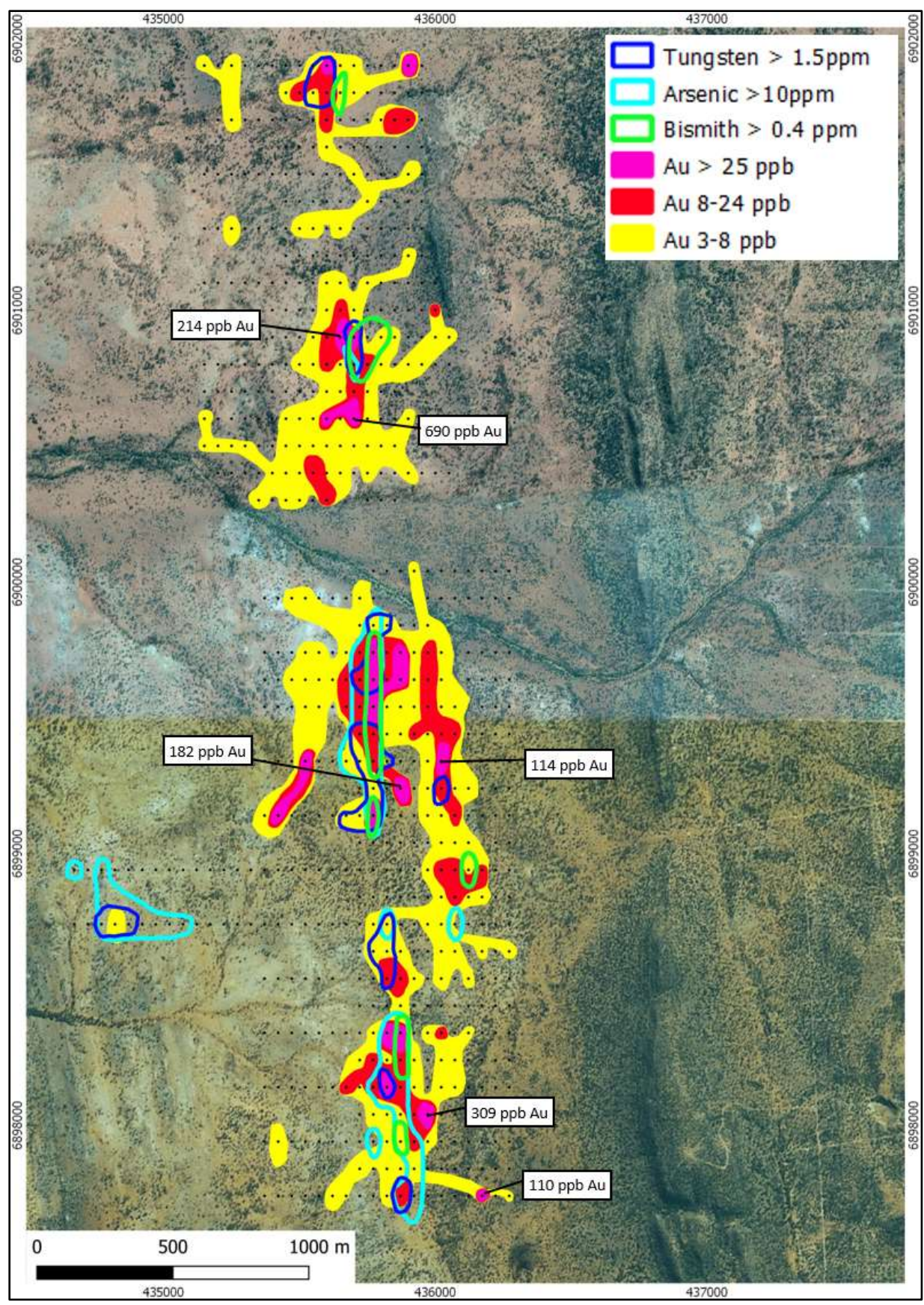


Figure 5 - Gold in soil with pathfinder elements, highlighting the correlation elements at the centre hotspots.

Garden Well Comparison

The Duketon Belt is home to multiple million-ounce deposits and GSN believe it is important to recognise the characteristics of these deposits to aid future exploration on the Company's 450km² tenement package in the area. In 2008, the 2.1Moz @ 1.4 g/t Au Garden Well Gold Deposit (Refer ASX: RRL announcement 8/3/11) was discovered as a result of a small scale aircore (22 hole) program following up on soil in lag anomalies. A soil anomaly of plus 3ppb gold was 2.5km in strike and up to 900m wide and contour values of 8 to 24 ppb and greater than 25ppb was used to illustrate the anomaly at the time (Figure 6). The figure highlights the scale and magnitude of the gold in lag response that was proximal to what is now a two-million-ounce gold deposit at Garden Well. Both figure 5 (Amy Clarke) and figure 6 (Garden Well) are at the same scale for comparison purposes to illustrate the comparable size and magnitude of gold in soils returned at Amy Clarke.

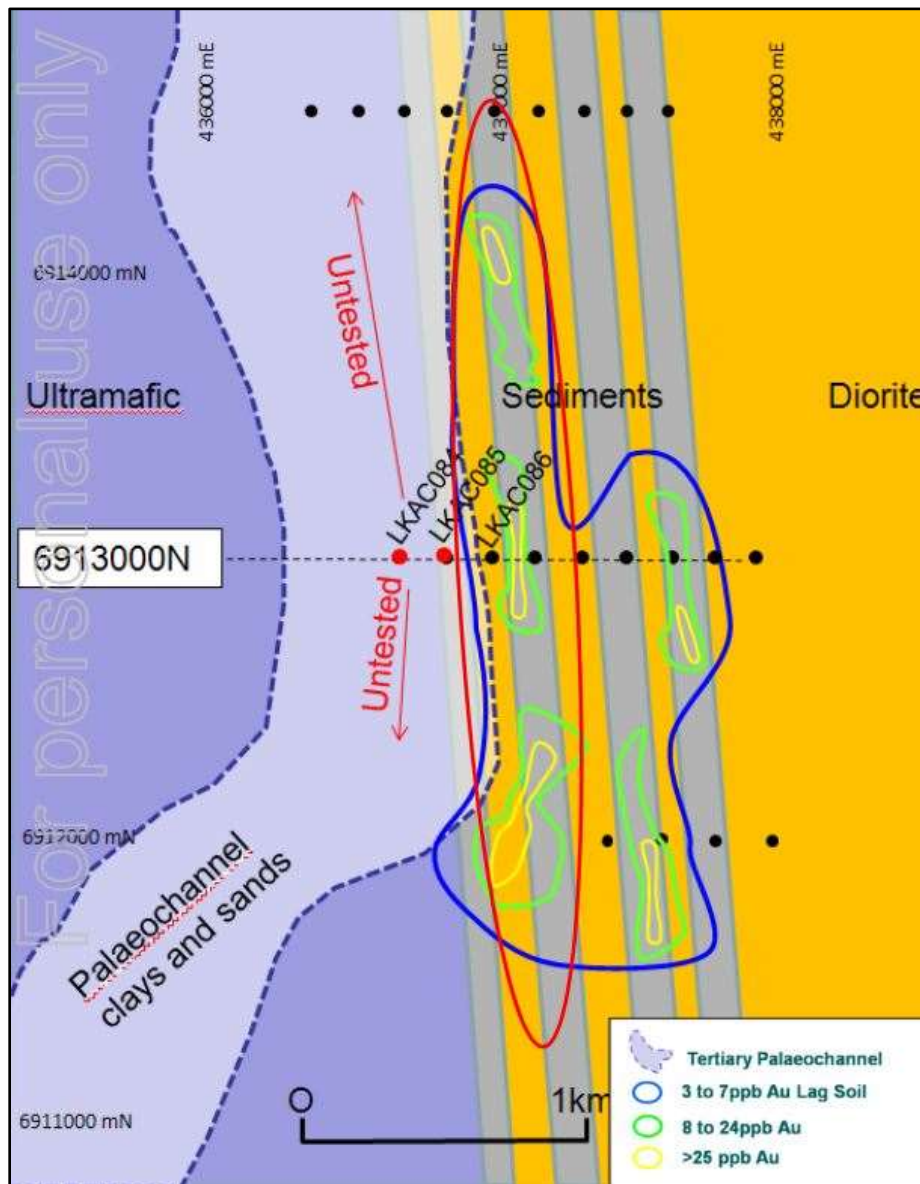


Figure 6 - Garden Well gold in lag soil anomaly prior to discovery.

Previous Exploration

It is remarkable that this area has had very little exploration and has not had any drilling since shallow RAB drilling by Sons of Gwalia Ltd near the anomaly. The end of one line of shallow RAB drilling (maximum 9m) drilled a portion of the anomaly. Drillhole ACR735 is of significant interest as a gold value of 3m @ 340ppb from 6m was intersected¹. Review of drill logs indicate that the vertical RAB hole ended at 9m (in mineralisation) within a 2m quartz vein. The significant gold intersection in ACR735 further confirms the validity of the target and highlights the lack of previous drilling.

Next Steps

GSN has planned a 10,000m Air core program over this anomaly. All statutory approvals are in place and a drilling contractor has been booked to complete the program later this year.

Also, investors can look forward to further reverse circulation drilling results from Southern Star, anticipated to be available for release to the market next week.

This announcement is authorised by the Executive Chairman of GSN.

For Further Information Contact:

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About Great Southern Mining

Great Southern Mining Limited is a leading Australian listed gold exploration company. With significant land holdings in the world-renowned gold districts of Laverton in Western Australia and Mt Carlton in North Queensland, all projects are 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.

¹ WAMEX report A63219: Sons of Gwalia Ltd: Surrender Report for the period 05/01/1993 to 28/09/2000

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 649-soil program was undertaken in two phases during May-June this year covering a 4.3-kilometre long and 900m wide area over a Prospect area known as Amy Clarke. Samples were taken below the organic layer (~10cm to 30cm BS) on 100m wide line spacing 50m apart with some lines extended over areas of interest. Samples were sieved in the field to 1.6mm 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
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
Sub-sampling techniques and sample preparation	<p>Sample preparation of Great Southern Mining samples follows industry best practice standards at accredited laboratories.</p> <p>Samples were sieved in the field to 1.6mm 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)</p> <p>Sieves were cleaned thoroughly between samples, no duplicates or field standards were taken due to the early stage of exploration</p> <p>Samples were taken below the organic layer (~10cm to 30cm BS) to ensure in-situ material.</p> <p>Sample size of ~1kg is deemed appropriate for fine fraction soil survey.</p>
Quality of assay data and laboratory tests	<p>Assay technique is Aqua regia and is considered partial and is an appropriate assay method for the</p> <p>No geophysical tools have been applied to the samples, or down hole, at this stage.</p> <p>No QC was reported.</p> <p>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</p> <p>48 Multielement super trace package ME-MS61 was used, ALS has lowered the detection limits</p>

Criteria	Commentary
	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.
Verification of sampling and assaying	No drilling is reported 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 +/- 5m Topographic control in nominal.
Data spacing and distribution	Data Spacing is variable see plans in report, in general samples were taken on 100m wide line spacing 50m apart with some lines extended over areas of interest. Unknown due to early-stage exploration No composite sampling
Orientation of data in relation to geological structure	No sample bias has been detected at this early stage. No drilling orientation and/or sampling bias has been recognised at this time.
Sample security	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	Tenement E38/3518 was granted 27/7/2020 in the name of East Laverton Exploration Pty Ltd, a 100% owned subsidiary of Great Southern Mining Limited. The tenement is in good standing.
Exploration done by other parties	In 2014 previous land holders (Stone Resources Australia Limited) completed a Mobile Metal Ions (MMI) soil geochemical survey on wide spacing of 300 metres across the tenure ² . MMI technology is an innovative analytical process that uses a unique approach to the analysis of metals in soils, using weak solutions of organic and inorganic compounds. It is especially well suited for deeper buried mineral deposits. MMI extraction on elements Ag, As, Au, Ce, Cr, Cu, Ni, Pb, Pd, Pt and Zn were analysed on an ICP-MS instrument. Results were highly effective for gold with a peak Au of 19.3ppb detected and three coherent plus 3ppb gold in soil anomalies were delineated. Review of the drillhole data revealed that in 1996 prior to the MMI survey Sons of Gwalia Ltd drilled near the anomaly, with the end of one line of shallow RAB drilling (maximum 9m) drilling a portion of the anomaly. Drillhole ACR735 is of significant interest as a gold value of 3m @

² WAMEX report A103266: Stone Resources Australia Ltd: Annual report for the period 01/01/2014 to 31/12/2014

Criteria	Commentary
	340ppb from 6m was intersected ³ . Review of drill logs indicate that the vertical RAB hole ended at 9m (in mineralisation) within a 2m quartz vein. The significant gold intersection in ACR735 further confirms the validity of the target.
Geology	The Duketon Greenstone Belt is comprised of mafic and ultramafic rocks, felsic volcanic and volcanoclastic rocks, and associated clastic sedimentary rocks. The contacts with bounding granitic rocks are typically intensely deformed. Axial surfaces of folds typically trend north-northwest with limbs commonly sheared by major structures. The major regional scale structures are a key element for large scale gold deposition and three of these mineralised structures strike through the new tenements under application and are highly prospective areas for gold accumulation.
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 and low value gold results are plotted on maps in conjunction with significant intercepts.
Other substantive exploration data	All relevant information has been included.
Further work	Future exploration includes assessment of recent soil results. Diagrams highlight potential area of interest for follow up work. At this stage an aircore program is being designed.

³ WAMEX report A63219: Sons of Gwalia Ltd: Surrender Report for the period 05/01/1993 to 28/09/2000