TWO LARGE GOLD-COPPER SYSTEMS IDENTIFIED AT LEICHHARDT CREEK

Great Southern Mining Limited (ASX: GSN) (the "Company" or "GSN") is pleased to provide an update on exploration activities at the Company's 100%-owned Edinburgh Park Project in north Queensland, following recent additional interpretation of soil geochemistry data obtained from the Leichhardt Creek Survey area.

Highlights

- Two significant, large geochemical soil anomalies have been discovered at Leichhardt Creek prospect from recent mapping and geochemical sampling, surrounded by several minor satellite anomalies.
- The results have mapped a vast (kilometre-scale) geochemical alteration system consistent with an Intrusive Related Gold System (IRGS) exhibiting strong associated metal content.
- The geochemistry signature of the Leichhardt IRGS exhibits well-defined Au–Ag-Sb-As–Cu–Bi–Mo–Zn-Pb anomalism and shows characteristic circular multi-element metal zonation.
- The field evidence adjacent to one of those major geochemical anomalies includes high-grade copper, gold and silver rock chip samples with textures and alteration patterns in some places possibly also consistent with epithermal mineralisation of a high-sulphidation style similar to Evolution's Mt Carlton mine.
- Notable IRGS deposits in North Queensland include Kidston (5 Moz), Ravenswood (8 Moz) and Mt Leyshon (3.5 Moz).
- Other targets at Fish Creek, Spring Creek and Edinburgh Castle are also being progressed with further market updates planned.
- Further ground truthing is planned ahead of targeted drill testing later in 2021.

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

"The analysis of the recently extended soil surveys at Leichhart Creek, at the Company's Edinburgh Park Project, presents compelling evidence of circular metal zonation trends consistent with kilometre-scale intrusive related gold-copper systems. This evidence is backed up with field observations of mineralised outcrops around the margins of the defined anomalies, especially at Green Ant and the Rocky Ponds Breccia."

"As the wet season passes, our geologists will be back in the field next week to validate and further refine the targets with an aim of progressing the targets to the drill testing stage. Analysis of further soil surveys at nearby prospects is also underway."

"We have a considerable landholding in the region with more than 1,000km2 surrounding Evolution's Mt Carlton mine. We have made a promising start and are looking to accelerate our exploration efforts to ground truth the 19 targets illuminated by the hyperspectral data."

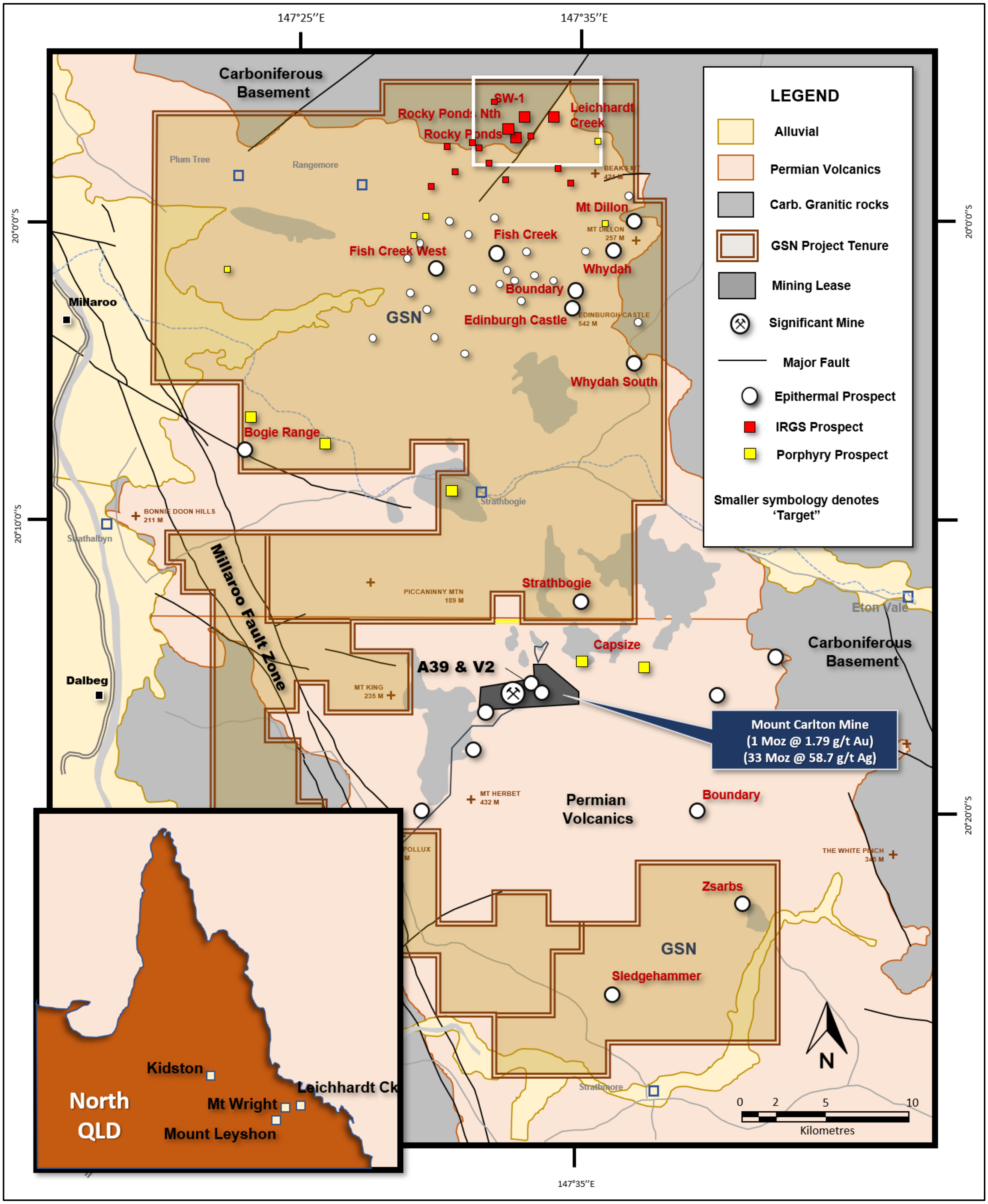

Figure 1: Location and geology of GSN's Edinburgh Park Project

Extended Soil Surveys

The Company has received results from geochemical survey work, comprising over 1,554 soil samples and 23 rock chip samples, recently completed over a 10 km^2 area north of Beaks Mountain (Leichhardt Creek Survey area) (Figure 1).

The Leichhart Creek Survey area is coincident with one of nineteen anomalies identified from the hyperspectral survey conducted in 2019 and co-funded by Evolution Mining Limited (ASX release 15 April 2020).

The geochemical mapping program extended and refined the earlier 2020 survey (ASX release 20 July 2020) which had not closed off gold anomalism. The survey area was therefore extended to the south and west on a wide spaced (100m x 100m) grid. The survey area was also infilled to a closer spacing (50m x 50m) in the Leichhart West - Green Ant location where geological observations heightened the prospectivity.

These three soil surveys were designed to test the gold-copper-molybdenum metal associations and aimed to identify metal zonation patterns consistent with large IRGS.

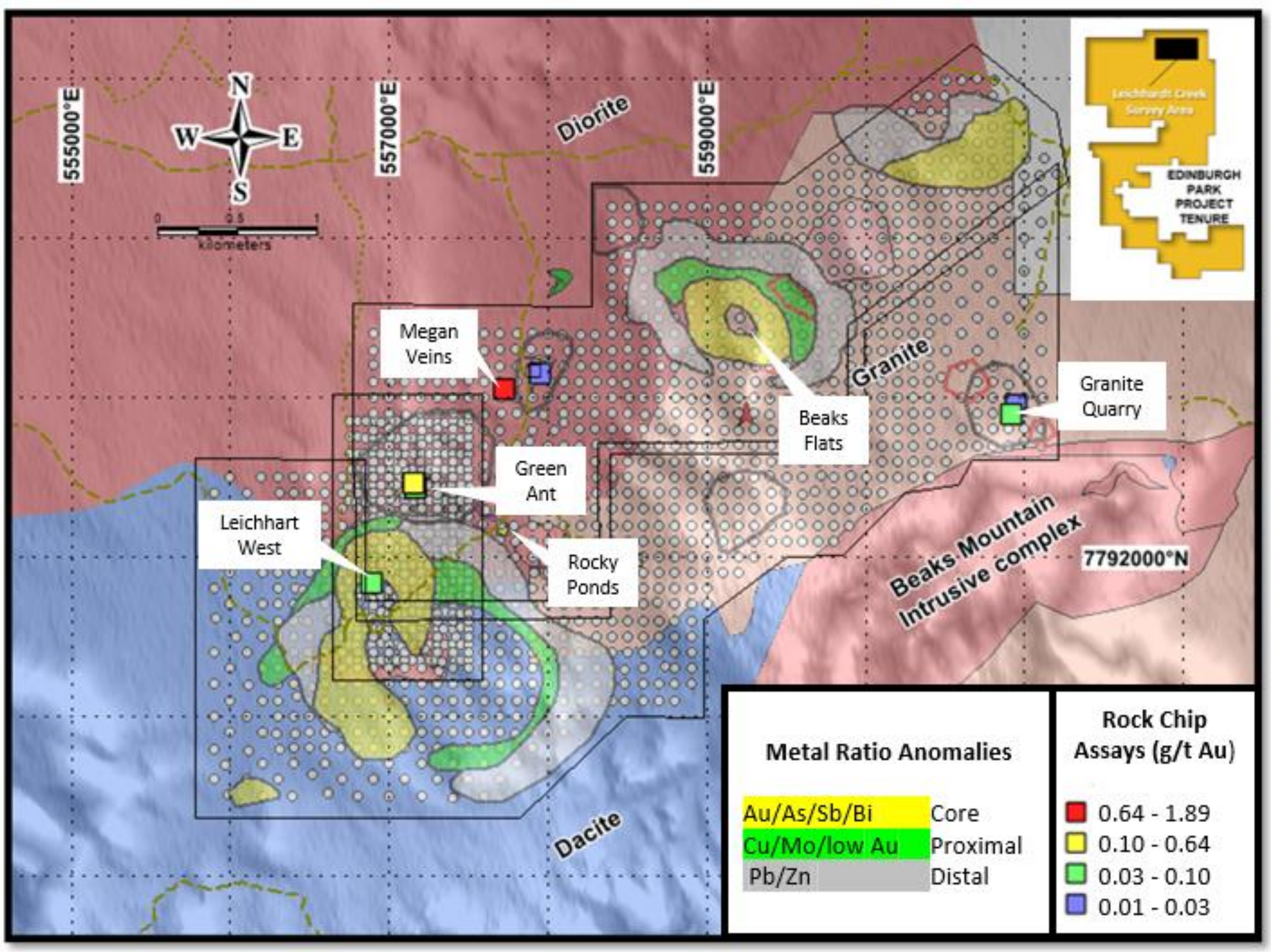

Figure 2 - Extended soil survey at the Leichardt Creek Prospect showing simplified geology, metal ratio anomalies, rock chip assays and location names referred to in the text.

Geochemical Results

The recent geochemical analysis, including the three soil surveys, recognised compelling circular metal zonation consistent with large IRGS. The anomalies were enhanced by levelling of the data to the key elemental ratios known to be associated with the style of mineralisation being targeted (refer About IRGS section below). This levelling of the data also reduces the effects of weathering, weak leaching, or mechanical dispersion from the data. This technique is designed to highlight the metal zonation anomalies shown in Figure 2.

The geostatistical analysis shows evidence of at least two major mineralised systems with IRGS affinity operating in the area and several minor satellite occurrences clustered in the surrounding area.

One of the main systems, Leichhardt West - Green Ant, situated on the south-west corner of the soil grid, is coincident with geological evidence of alteration and mineralisation consistent with an IRGS style. This target has been advanced to target definition stage. Mapping and sampling will continue until key criteriums are identified to refine down to specific drilling targets.

The second main system is at Beaks Flats where textbook circular metal zonation has been identified in the soils.

Both systems identified exhibit the same strong circular metal zonation characteristics shown on Figure 1:

- The **Core Zone** is the area shown in yellow associated with gold (up to 130 ppb), arsenic (up to 12ppm), antimony (up to 8 ppm), and bismuth (up to 3.5 ppm) anomalism.
- The **Proximal Zone** is the area shown in green associated with copper (up to 600 ppm) and molybdenum (up to 12 ppm) anomalism, and a low gold response.
- The **Distal Zone** is the area shown in grey associated with zinc (up to 1,100 ppm) and lead (up to 360 ppm).

The geochemical anomalism shows clear temperature-dependent metal zones from lower temperature (outwards) to higher temperature (inwards) in both systems.

Geological Evidence

The geochemical anomalies are coincident with independent geological evidence consistent with IRGS in some areas and epithermal high sulphidation deposit styles in other areas. This evidence includes high-grade copper, gold and silver rock chips. Interestingly, the high-grade rock chips are located at the margins of the geochemical anomalies rather than at the newly identified core (Figure 1). This highlights the importance of methodically considering the overall geological and geochemical system, rather than individual mineralised outcrops.

Megan Veins

Megan Veins is a set of doleritic dikes oriented NW - SE. Each of these dikes has a general width of 1 to 3 m and they can extend for up to 120 m. The host syenite is silicified and the doleritic dikes are affected by a quartz stockwork assaying up to 2 g/t gold. The rock samples from the dikes contain copper oxide minerals and returned values up to 4% copper (Figure 3).

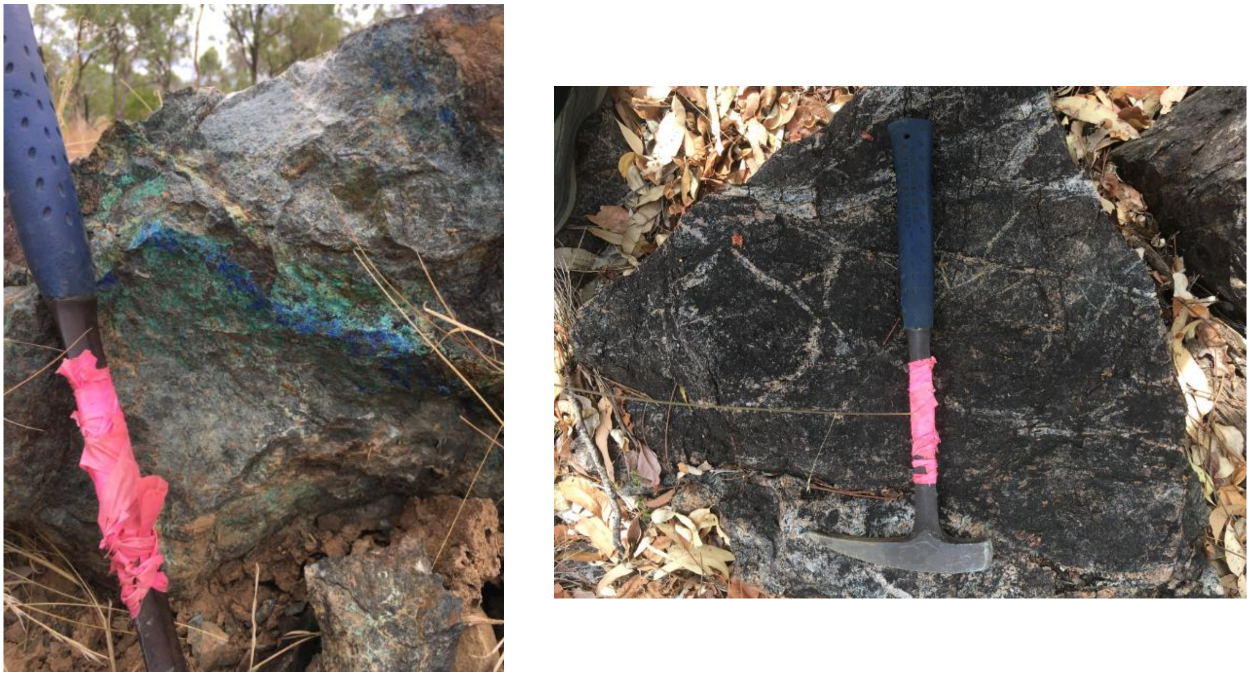

Figure 3 – Geological observations at Megan Veins; malachite and azurite in doleritic dikes grading up to 4% copper (LHS) and quartz stockwork grading up to 2 g/t gold (RHS).

Green Ant

Green Ant is an area of contact between a granodiorite and a syenite with hornfels contact metamorphism evident, rich in epidote, potassic feldspar, magnetite, specularite and amphiboles. Rock chip samples from this area have returned values up to 4.7% copper, up to 0.1 g/t gold and up to 210 g/t silver. The copper values belong mainly to malachite and chalcocite minerals (Figure 4). The alteration assemblage could belong to a proximal propylitic (high temperature or inner propylitic) alteration pattern emplaced in or near the contact between two intrusions.

Figure 4 – Geological observations at Green Ant.

Granite Quarry

A granite quarry historically excavated for road construction materials is located towards the eastern end of the Leichhart Creek Survey area at the base of the Beaks Mountain intrusive complex (Figure 1). Here, a set of sheeted quartz veins carrying fine sulfides were detected. Fractures carrying chalcocite are also observed (Figure 5).

Figure 5 – Geological observations at Granite Quarry; Chalcocite and sheeted quartz veins with sulfides and malachite in granitic rocks

Geological Evaluation

The first step of exploration in this area started with acquisition and processing of remote sensing information. This included the hyperspectral imagery, aerial magnetometry and compilation of historical exploration data across the district. The first step generated exploration targets, most notably including the 19 anomalies from the hyperspectral survey.

The second step has been to appoint a stable team of Company geologists, ably supported by local service providers and expert geological consultants, to begin systematically evaluating the potential of those anomalies.

The systematic evaluation of each of the prospects aims to progress each target from the target generation stage to the target definition stage and then drill testing stage as quickly as possible on the basis of the technical merits of each target (Figure 6). The process is iterative, always feeding back, refining and adding value by advancing higher quality targets.

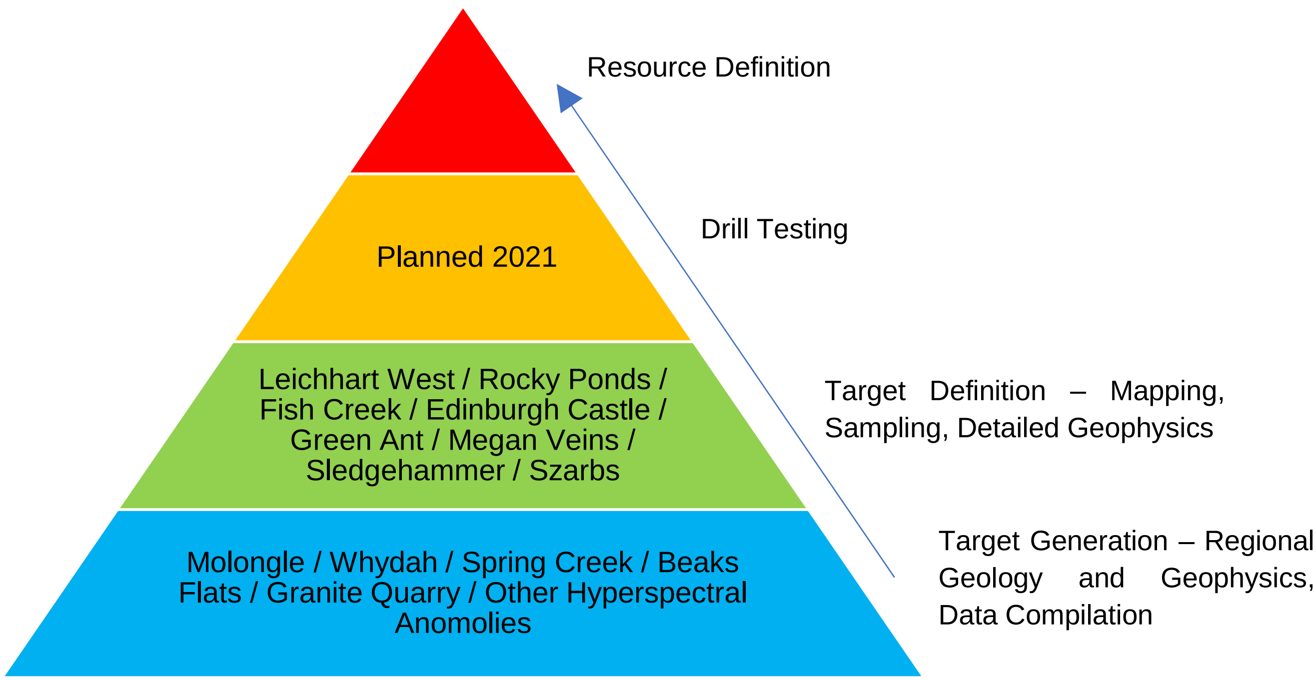

Figure 6 – GSN systematic exploration workflow pipeline

Next Steps

Soil surveys have also been conducted at Fish Creek, Spring Creek and Edinburgh Castle. These are presently being processed.

Now that the wet season is receding, field operations will resume with further field validation and mapping, including detailed traverses across the newly identified anomalies, with a focus on mapping the alteration halos associated with an IRGS that the circular metal zonation and geological observations suggest.

This work is being conducted with the objective of advancing several targets to the drill testing stage later in 2021.

About Intrusion Related Gold Systems (IRGS)

IRGS are a relatively newly defined and economically important type of gold deposit of usually low to moderate grade (0.5 to 2.0 g/t gold) and of large tonnage amenable to low cost, bulk mining methods.

In North Queensland (NQ), a distinct IRGS province (Kennedy Igneous Province) hosts more than 100 identified systems, with over 20 Moz of gold endowment. Notable IRGS deposits in NQ include Kidston (5 Moz), Ravenswood (8 Moz) and Mt Leyshon (3.5 Moz).

IRGS deposits are spatially and/or temporally related to emplacement of moderately reduced, I-type, intermediate to felsic intrusions with a common metal and deposit style zoning centered around the mineralizing intrusion. In NQ there is a strong association of IRGS deposits with a Late Carboniferous setting with Early Carboniferous to mid Permian magmatism, dominated by cauldron subsidence complexes (i.e. extension of continental crust), strongly fractionated I-type (high SiO_2, K_2O & LILE).

General characteristics include a metal assemblage variably combining Au with Bi, Te, W, Mo, As, Sb, Ag, Cu, Pb and Zn with a low sulphide content (<5%) containing arsenopyrite, pyrrhotite and pyrite and lack magnetite or hematite. Whilst each deposit is different, several patterns emerge that can be useful for assessing prospectivity.

Deposit-style

IRGS systems are characterised by a range of mineralisation styles, both proximal and distal to the mineralising intrusion and may include sheeted veins and stock works, breccias, disseminated deposits, skarns, replacements and distal base metal bearing fissure veins. The most distinctive style of gold mineralisation in IRGS are sheeted arrays of parallel, low-sulphide, single-stage quartz veins which are found over 10s to 100s of metres and preferentially located in the pluton's cupola (e.g., Ravenswood Complex). These veins are unlike multidirectional interconnected stockworks characteristic of porphyry systems.

Associated alteration is often weakly developed. Within the known deposits, the ore stage alteration is sericite and magnetite destructive, but the extent and magnitude of this alteration is variable and often complicated (or swamped) by more magnetic features such as intrusive plugs and dykes, pyrrhotite mineralisation and/or host rocks with low primary magnetic susceptibility, resulting in a poor contrast of the feature relative to the background.

Metal Zoning

Thermal gradients surrounding cooling plutons associated with IRGS are steep and result in temperature-dependent concentric metal zones that develop outward from pluton margins for distances up to a few kilometers, or just beyond the thermal aureole. IRGS deposits are broadly expected to have a far distal (marginal) As-Sb zone, often with Fe-Carbonate (e.g. ankerite); a near-distal base-metal zone (that overlaps into the Au zone); an intermediate base-metal zone with Au plus Bi-Te; a proximal zone with Fe +/- Cu and a core zone of Mo+/-Cu-W. This pattern of zoning is characteristic of gold-bearing hydrothermal systems in the Permo-Carboniferous of North Queensland whether they have developed into a breccia or not.

Metal anomalism can be subtle (e.g., Mt Wright breccia system) due to the vertical zonation pattern common to IRGS systems and the lack of gold at surface is not necessarily a measure of prospectivity. At Mt Wright, the ore grade gold zone commences several hundred metres below the exposed top of the system. Metal zonation patterns for the major IRGS in North Queensland are presented in table 1.

Table 1: Metal zonation of patterns of the Kidston, Mt Leyshon, Mt Wright and Welcome deposits

Deposit	Distal	Intermediate (Au)	Proximal	Core
Kidston	(Ank-Py)	Zn-Cu-Pb-Bi-Te-Au	Cu-Bi-Te	Mo-W-Bi
Mt Leyshon	Zn	Zn-Cu-Pb-Ag-Bi-Te-Au	Py-Kspar	Cu-Mo
Mt Wright	Zn-Pb-Ag	Bi-Cu-Au-Te (Py-Marc)	Fe-Cu (Po)	Mo-W-Te
Welcome	As-Sb-Zn (Ank)	Zn-Cu-Pb-Bi-Te-Au (Cal)	Fe (Py-Chl)	Mo-W

About Edinburgh Park

The Edinburgh Park project comprises 6 Exploration Permits for Minerals (EPM's) 26810, 26527, 27130, 27131, 25196, and 27506 covering more than 1,000 square kilometers (Figure 1). The project is a greenfield exploration project in the target definition phase, considered prospective for porphyry copper-molybdenum, IRGS deposits and epithermal gold-silver deposits. The area is considered under-explored with only minor exploration activities over the past fifteen year since the discovery in 2005 of the Mt Carlton million-ounce gold deposit, owned and operated by Evolution Mining Limited, which is located adjacent to the project tenure.

Further announcements in relation to the Edinburgh Park Program can be found below:

Date	Announcement
16-07-20	Large intrusive related gold system at Leichhardt Creek
27-05-20	Porphyry targets identified at Edinburgh Park
15-04-20	Hyperspectral Survey identifies large gold target at Edinburgh Park
08-11-19	GSN to partner with Evolution Mining on Hyperspectral Survey
05-07-19	Reconnaissance drilling update - Rocky Ponds Breccia
14-02-19	High grade rock chips returned at Edinburgh Park Project
11-02-19	Edinburgh Park Project - Rocky Ponds Breccia
06-02-19	Porphyry system identified at Edinburgh Park Project

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

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 and capturing 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 targets and exploration results at Edinburgh Park is based on, and fairly represents, information and supporting documentation compiled by Octavio Garcia. Mr Garcia is a full-time employee of Great Southern Mining Limited. He has sufficient experience relevant to the style of mineralization and type of deposit under consideration. Mr Garcia is a Member of the Australian Institute of Geoscientists and as such, is a Competent Person for the Reporting of Exploration Results, Mineral Resources and Ore Reserves under the JORC Code (2012). Mr Garcia consents to the inclusion in the report of the matters based on his information in the form and context in which they occur.

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 contemplate.

APPENDIX A - JORC Code, 2012 Edition – Table 1 EDINBURGH PARK SOIL SURVEY

The following information follows the requirements of the JORC 2012 Table 1 Sections 1 and 2 for ASX release related to the Edinburgh Park geochemistry survey and results.

Section 1 Sampling Techniques and Data

Criteria	Commentary
Sampling techniques	Great Southern Mining Ltd (ASX: GSN) is reporting a new soil survey conducted in September 2020 at the Company's Edinburgh Park Project. A total of 1554 soil samples were taken on a 100m by 100m grid intervals and at a 50x50m grid interval in one area. The grid coordinates for the samples were planned in a GIS system. A handheld GPS was used to navigate to each sample point. A hand auger was used to obtain approximate 1-2 kg soil sample at a depth of between 20cm and 30cm, so as to obtain a sample of the B soil horizon. The bulk sample was placed in a numbered zip-lock bag and subsequently into an alike numbered calico bag. A sample data sheet was filled in at the sample site. The bulk samples were submitted to ALS Laboratory in Townsville. Sample representivity was ensured by a combination of Company procedures regarding quality controls (QC) and quality assurance/ testing by the lab (QA). Soil sampling techniques are considered industry standard for the Leichhardt Creek work programmes.
Drilling techniques	Not Applicable
Drill sample recovery	Not Applicable
Logging	Not Applicable
Sub-sampling techniques and sample preparation	Sample preparation was completed by ALS personal. Preparation involved mechanical sieving using a -80 mesh (180 micron) sieve stack to produce an approximately 100g to 150g sample. Damp samples were dried prior to sieving.

Criteria	Commentary
Quality of assay data and laboratory tests	The sieved soil samples were analysed for gold by method Au-TL43 for the 100x100m grid and method Au-AA26 for the 50x50m grid and for a range of multi-elements by methods ME-ICP61 for the 100x100m grid and ME-MS61 for the 50x50m grid at Australian Laboratory Services (“ALS”) in Townsville, Queensland. Gold by method Au-TL43, is by aqua regia extraction with ICP-MS finish. Up to a 25g sample is digested in aqua regia, and the acid volume is partially reduced by evaporation. The solution is diluted to volume and mixed thoroughly. Gold content is measured by ICP mass spectrometry. For gold by method Au-AA26, a 50g prepared sample is fused with a mixture of lead oxide, sodium carbonate, borax, silica and other reagents as required, inquarted with 6 mg of gold-free silver and then cupelled to yield a precious metal bead. The bead is digested in 0.5 mL dilute nitric acid in the microwave oven. 0.5 mL concentrated hydrochloric acid is then added and the bead is further digested in the microwave at a lower power setting. The digested solution is cooled, diluted to a total volume of 10 mL with de-mineralised water, and analysed by atomic absorption spectroscopy against matrix-matched standards. Multi-element by method ME-ICP61 combines a four-acid digestion with ICP-AES instrumentation. A prepared sample (0.25 g) is digested with perchloric, nitric, hydrofluoric and hydrochloric acids. The residue is topped up with dilute hydrochloric acid and the resulting solution is analysed by inductively coupled plasma-atomic emission spectrometry. Results are corrected for spectral interelement interferences. Multi-element by method ME-MS61 combines a four-acid digestion with ICP-AES and ICP-MS instrumentation. A four acid digestion quantitatively dissolves nearly all minerals in the majority of geological materials. A prepared sample (0.25 g) is digested with perchloric, nitric and hydrofluoric acids. The residue is leached with dilute hydrochloric acid and diluted to volume. The final solution is then analysed by inductively coupled plasma-atomic emission spectrometry and inductively coupled plasma-mass spectrometry. Results are corrected for spectral inter-element interferences.
Verification of sampling and assaying	Primary data was collected for soil samples using a paper sample sheet. The sampling data was subsequently entered into an excel spreadsheet. The information was then imported into IoGAS for validation and compilation into a database. No adjustments or calibrations were made to any assay data used in this report.
Location of data points	Datum: GDA 94 Projection: Map Grid of Australia Zone: 55 South
Data spacing and distribution	The soil spacing is shown in the figures in the text. Nominally 100m x 100m with infill at 50 x 50m in certain areas.
Orientation of data in relation to geological structure	The soil sampling grid was not orientated (100m by 100m sampling) and is considered to have achieved unbiased sampling.
Sample security	Bulk soil samples were packaged and hand delivered straight from the field site to ALS in Townsville, Queensland.
Audits or reviews	No audits or reviews of the data management system has been carried out.

Section 2 Reporting of Exploration Results

Criteria	Commentary
Mineral tenement and land tenure status	The results reported in this report are on granted Exploration Permit for Minerals (EPM) 26810, 26527, 27130, 27131, 25196, and EPM 27506, being 100% owned by Great Southern Mining Limited. At the time of reporting the tenements are in good standing.
Exploration done by other parties	No other exploration done by other parties is relevant to the exploration results being reported here.
Geology	The Edinburgh Park project is located at the northern margin of the Bowen Basin. Within the project area, the Permian-age volcanics comprise undifferentiated packages of broadly flat-lying volcanics and volcaniclastics and minor basinal sedmentary rocks which drape the Carboniferous unconformity dominated by intrusive granites. The region is interpreted to represent a magmatic arc setting considered prospective for porphyry copper-molybdenum IRGS deposits and epithermal gold-silver deposits.
Drill hole Information	No drilling is reported
Data aggregation methods	No data aggregation has been undertaken
Relationship between mineralisation widths and intercept lengths	No relevant program was undertaken
Diagrams	Appropriate diagrams of the geology are presented in the body of this report
Balanced reporting	The Competent Person (CP) believes this report to be a balanced representation of exploration undertaken.
Other substantive exploration data	No other exploration data is considered relevant to those results reported here.
Further work	Additional mapping and additional soil geochemistry survey to the south to encompass the full extent of the mineralised system will be undertaken at this project. A number of priority areas will be the focus of additional geophysical methods to explore and interpret the system at depth to advance the prospect to an exploratory drilling stage.