

ASX ANNOUNCEMENT

14 April 2021

HIGH-SULFIDATION GOLD-SILVER-COPPER SYSTEM MAPPED AT FISH CREEK, EDINBURGH PARK, QUEENSLAND

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 collected from the Fish Creek Prospect.

Highlights

- The geochemical signature of the Fish Creek Prospect exhibits well-defined gold, silver and base metals anomalism consistent with a High-Sulphidation (HS) system similar to the nearby Mt Carlton gold-silver-copper mine.
- Ongoing mapping has identified phyllic, siliceous and argillic alteration consistent with classic alteration halos around HS systems.
- Further ground truthing is underway to enable ranking of drilling targets for testing later in 2021.

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

“The interpretation of the geochemistry data at Fish Creek has revealed an HS gold-silver-copper system similar to the nearby Mt Carlton mine located only 25km to the south. Mt Carlton was discovered by the team led by GSN’s Chairman, Mr John Terpu, for Conquest Mining which has gone on to become the multi-billion-dollar Evolution Mining.”

“The Fish Creek Prospect moves alongside the Leichhardt Creek Prospect as two of our most promising targets within the Edinburgh Park Project in North Queensland.”

“Further mapping and prospecting is underway at these and other targets with an intention of completing our ranking process ahead of drill testing later in 2021.”

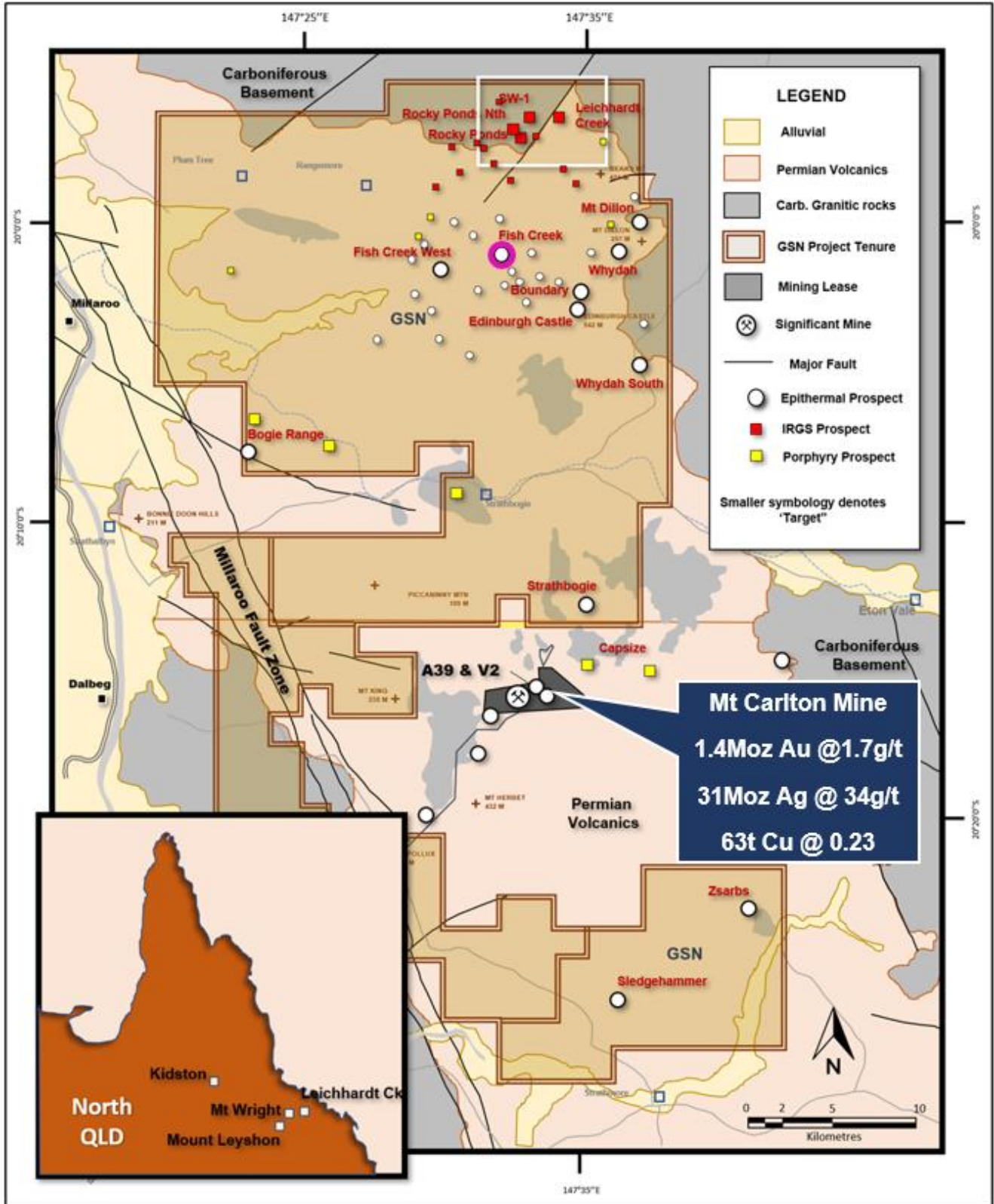


Figure 1: Location and geology of GSN's Edinburgh Park Project. Fish Creek highlighted in pink.

Mt Carlton HS Analogue

The Mt Carlton gold-silver-copper mine, owned by Evolution Mining, is a 1.4Moz @ 1.7g/t Au, 31Moz @ 34g/t Ag, 63t @ 0.23 g/t copper HS deposit (refer ASX:EVN pre-mining resource statement 22/9/2012) located 25km due south of Fish Creek. These systems are known to occur in clusters.

Sahlström et al. (2018, Economic Geology 113, 1733-1768) characterise the Mt Carlton gold-silver-copper deposit as having the following metal zonation (Figure 2):

1. **Inner Core Zone = Au-Cu-As-(Sb) rich**
2. **Outer Core Zone = Au-Zn-Pb rich**
3. **Proximal Zone = Ag-Cu-As-(Sb) rich**
4. **Distal Zone = Ag-Zn-Pb rich**

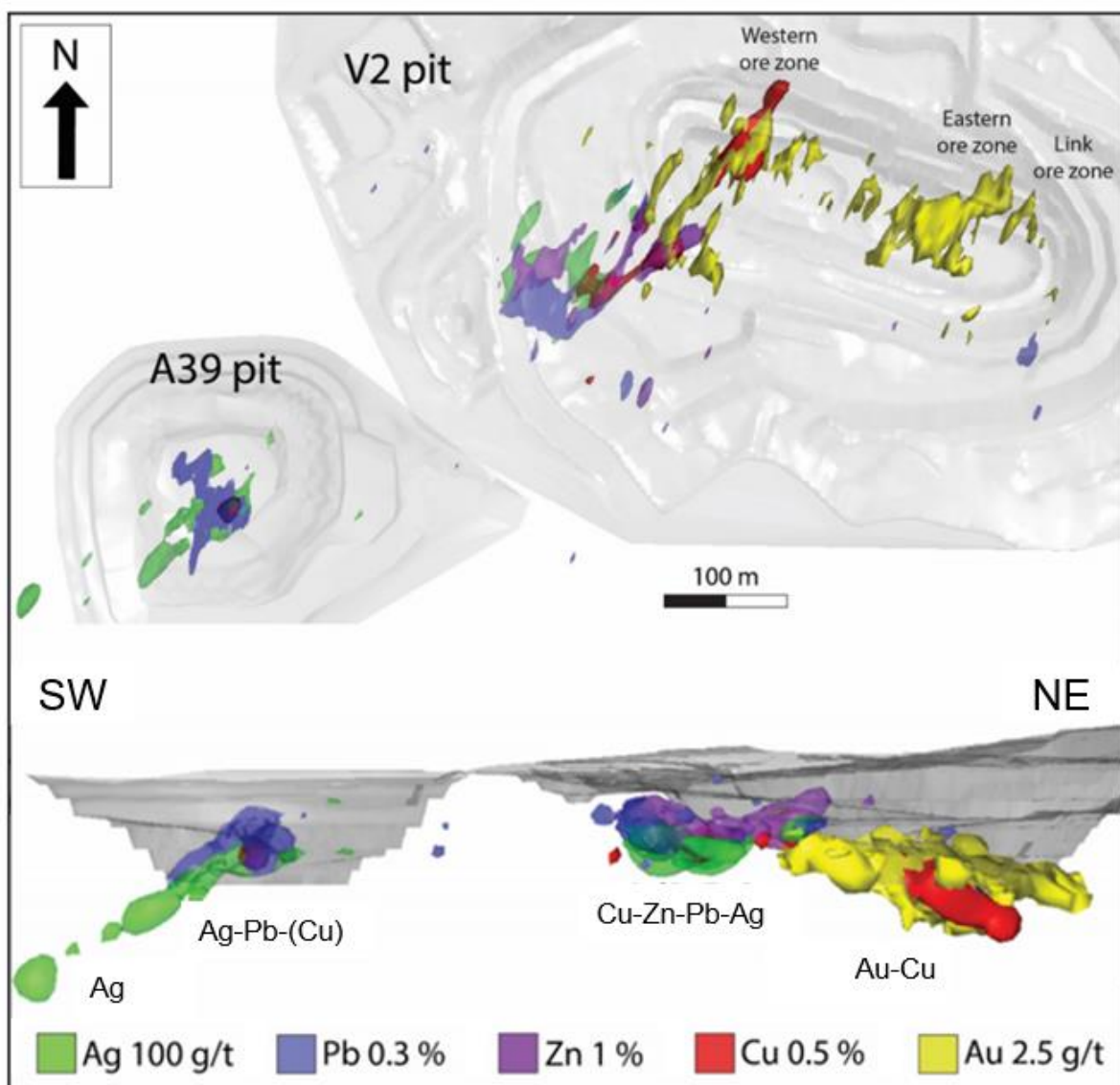


Figure 2 – 3D models of metal zonation within the Mt Carlton gold-silver-copper mine

The alteration halo surrounding Mt Carlton can be characterised as siliceous alteration immediately surrounding the orebody transitioning to argillic and chloritic alteration moving from the proximal to the distal. The deposit is hosted in volcanic rhyodacite porphyry and tuff rocks.

Soil Survey

The Company has received results from geochemical survey work, comprising over 710 soil samples on a 100m x 100m grid, recently completed at Fish Creek over a 6 km² area north-west of Edinburgh Castle (Fish Creek Survey Area) (Figure 1).

The Fish 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 soil survey was designed to test the gold-silver-base-metals metal associations.

Fish Creek Results

Fish Creek has returned a very positive geochemical signature consistent with an HS system like Mt Carlton. This result is consistent with geological evidence that is continuing to be collected from the field.

Figure 3 and 4 compare the metal zonation at Mt Carlton and Fish Creek data by normalising the data to the average metal abundance at Fish Creek. The arrows track the zonation from distal to proximal to the core. This is considered a reasonable guide to compare the style of both systems and shows a strong correlation between both mineralised systems. When these results are plotted spatially and importance is placed on the gold grades, these appears to be a zonation from blue distal results to two red areas showing characteristics of core zones similar to A39 and V2 at Mt Carlton (Figure 3; simplified and 4; detailed).

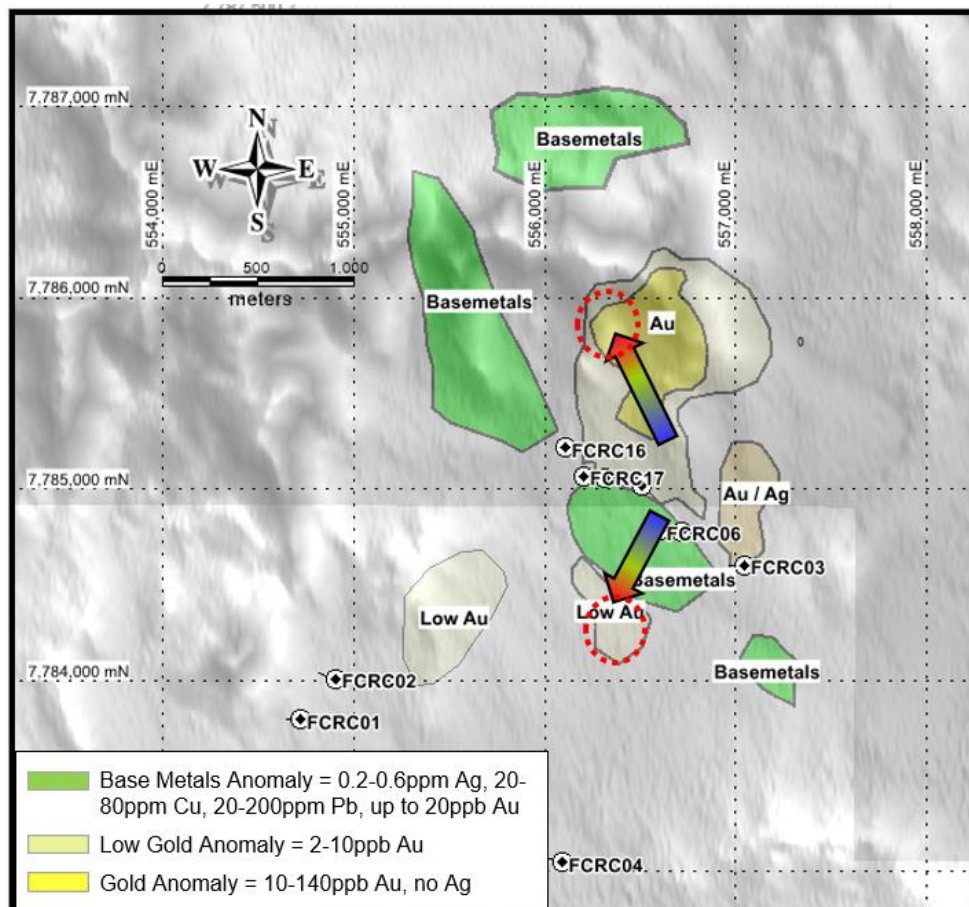


Figure 3 – Simplified metal anomalies at Fish Creek. The arrows are explained in figure 4.

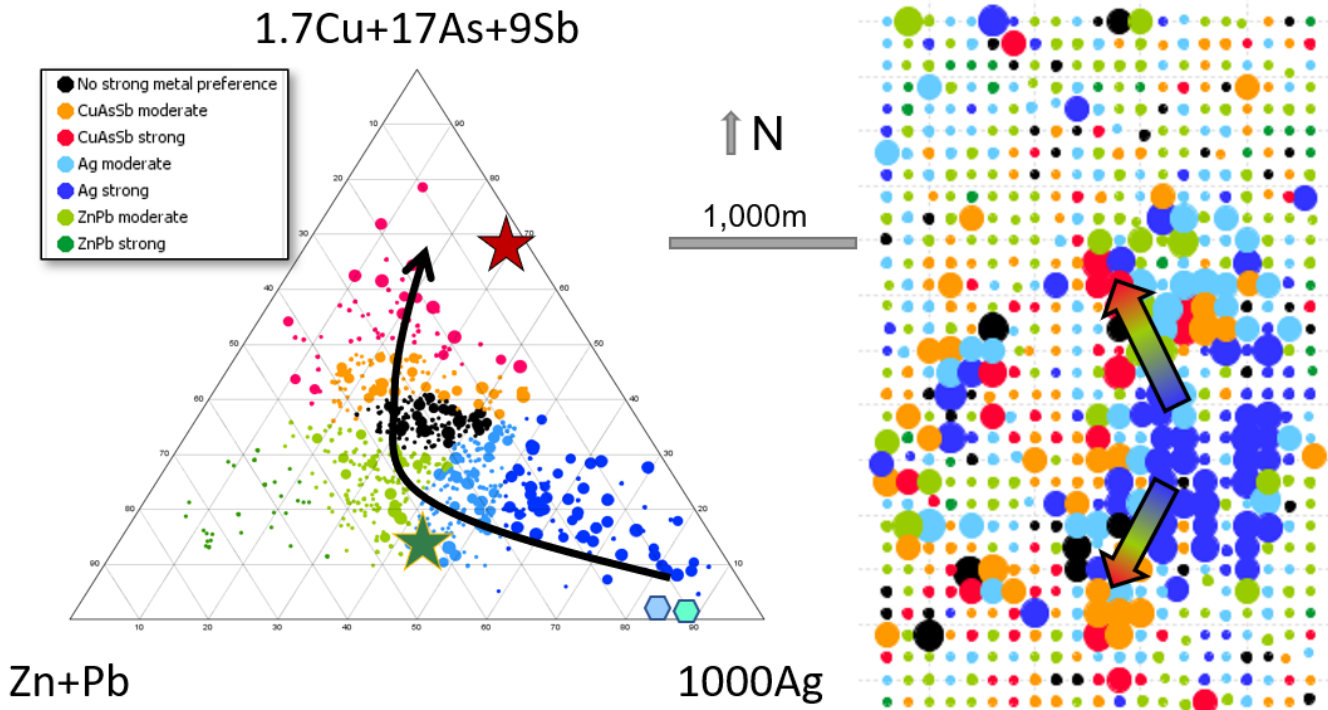


Figure 4 – Ternary plot showing the trend of mineralised zonation at the Mt Carlton HS system; The stars represent the gold rich ores and the hexagons the silver rich ores at Mt Carlton. The dots are the Fish Creek data. (LHS). This is represented in plan view at Fish Creek with the same colour scheme and emphasis is placed on the gold grades (dot sizes). Two anomalies similar to A39 and V2 at Mt Carlton are evident (RHS).

Geological Evidence

Field mapping by GSN has identified volcanic rocks of the Lizzy Creek volcanic suit, including rhyolitic porphyry, rhyolitic volcanic breccias and rhyolitic tuffs (Figures 5 and 6). Some sections of the rhyolitic tuffs could have been deposited in a lacustrine environment, very similar host lithologies for Mt Carlton style mineralisation. Syenites and andesites are also observed in outcrop. The reconstruction of the local stratigraphic column is part of the current field work. The alteration patterns are very encouraging with strong silicification near the core of the northern anomaly. The alteration is pervasive phyllic in some places, strong pervasive to patchy silicification in others and appears to have an argillic halo around the margins in the northern anomaly which is very similar to the Mt Carlton model. Part of these patterns have not yet been identified for the southern anomaly due to limited outcrop so further field investigations are planned.

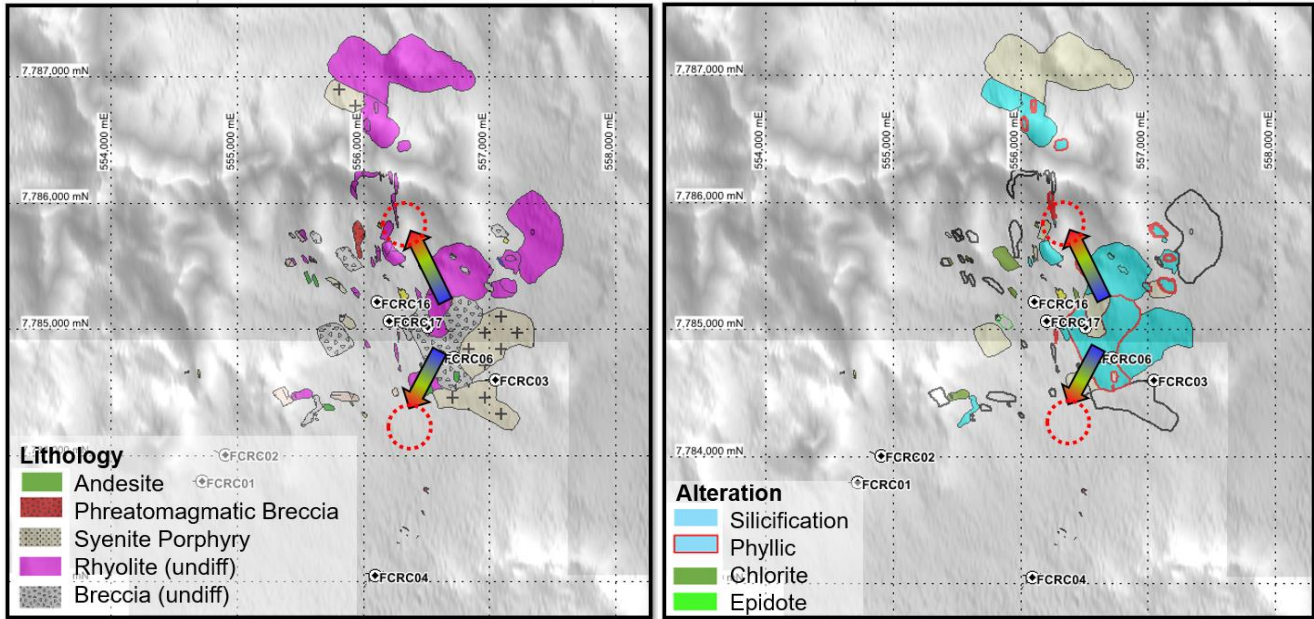


Figure 5 – Lithology (LHS) and alteration (RHS) mapping progress at the Fish Creek Prospect.



Figure 6 - Coarse breccia with magmatic affinity to the west of the strong silicification area; fragments belong to Lizzie Creek volcanic rocks (LHS). Strong and pervasive silicification affecting porphyritic rhyolite of the Lizzie Creek volcanic sequence adjacent to the gold anomaly detected in soils (RHS).

Previous Exploration

The area was first explored by Ashton Mining Limited in the late 1980's. Regional soil and stream sediment sampling programs led to identification soil and surface rock Au, Ag, As, and Pb anomalism. The available ground was picked by Cloncurry Metals Limited in 2009 who followed up with reconnaissance work including a ground magnetic survey, IP survey and RC drilling. 6 of the 10 RC holes drilled intersected silver grades above 1 g/t Ag. The drill holes appear to have been located between the two anomalies recently identified here by GSN and did not adequately test either target (Figures 3 and 5).

Next Steps

Soil surveys have also been conducted at Leichhardt Creek (refer ASX announcement 18 March 2021), Spring Creek and Edinburgh Castle. These surveys are presently being processed.

Field operations have now resumed with further field validation and mapping, including detailed traverses across the newly identified anomalies.

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

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

About HS Deposits

HS epithermal deposits occur in volcanic arc settings around the world. These deposits are commonly found near terrestrial volcanic domes, central vent volcano setting and maar-diatreme or caldera complexes. The main products of HS deposits are gold, silver and copper. Mineralisation styles include hydrothermal breccias, veins, stockworks and disseminations. The ore typically occurs in lithocaps, which are laterally extensive sub-horizontal blankets of silicic and advanced argillic altered rocks that overlie intrusions. The deposits form when magmatic volatiles are injected into a shallow epithermal environment, where abrupt changes in physical and chemical conditions cause metal deposition and attendant hydrothermal alteration. HS deposits are linked to porphyry copper deposits and other types of hydrothermal mineralisation (Figure 7).

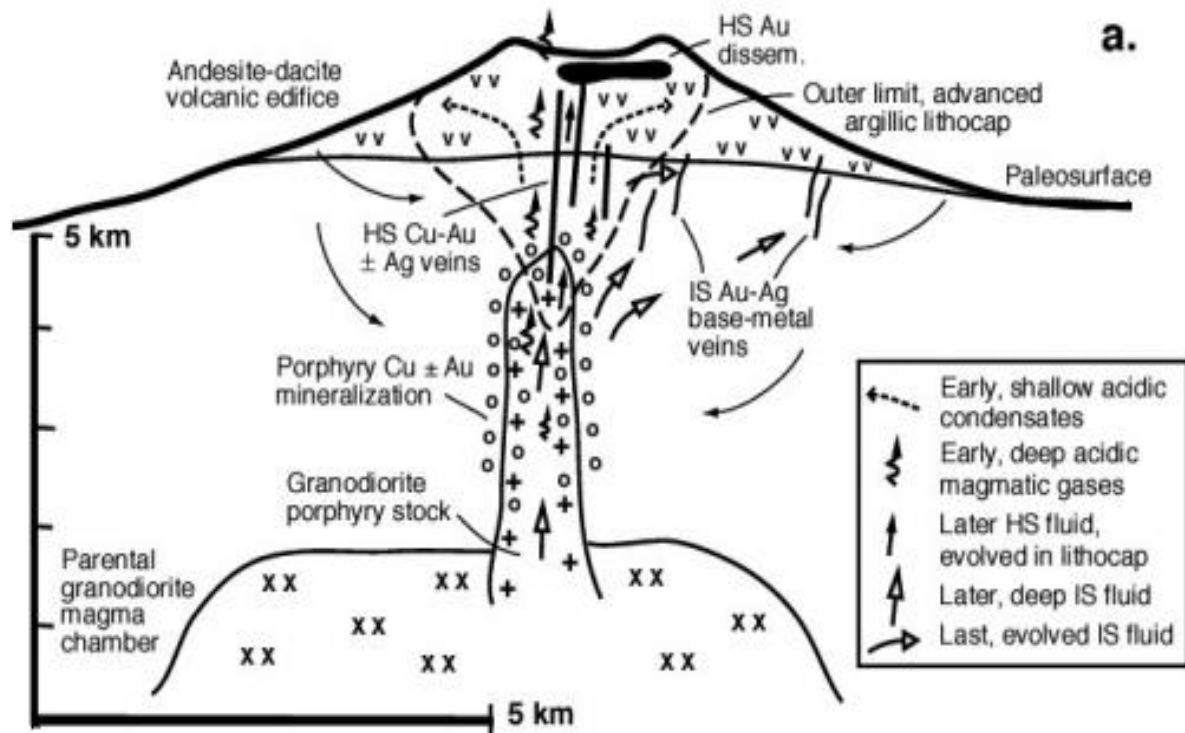


Figure 7 – Model showing the genesis of HS deposits and relation to porphyry copper deposits and other types of hydrothermal mineralisation (Sillitoe Hedenquist 2003).

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
18-03-21	Two large gold-copper systems identified at Leichhardt Creek
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

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	<p>Great Southern Mining Ltd (ASX: GSN) is reporting a new soil survey conducted in September 2020 at the Company's Edinburgh Park Project.</p> <p>A total of 710 soil samples were taken on a 100m x 100m grid intervals. The grid coordinates for the samples were planned in a GIS system. A handheld GPS was used to navigate to each sample point.</p> <p>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.</p> <p>The bulk sample was placed in a numbered lock calico bag and subsequently into an alike numbered polyweave bag. A sample data sheet was filled in at the sample site. The bulk samples were submitted to ALS Laboratory in Townsville.</p> <p>Sample representivity was ensured by a combination of Company procedures regarding quality controls (QC) and quality assurance/ testing by the lab (QA).</p> <p>Soil sampling techniques are considered industry standard for the Fish Creek work programmes.</p>
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 at 60 degrees prior to sieving.
Quality of assay data and laboratory tests	The sieved soil samples were analysed for gold and multi-elements by method Au-TL44 at Australian Laboratory Services ("ALS") in Townsville, Queensland. A finely pulverized 50g sample is cold digested by Aqua Regia with HNO ₃ , then HCl is added and the sample is heated at 130°C for 40 minutes. Digestion is carried out in disposable plastic bottles to eliminate cross-contamination from digestion vessels and heated via graphite block for even heating. Elements are analyzed via ICP-MS and ICP-AES corrected for inter element spectral interferences.
Verification of sampling and assaying	<p>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 loGAS and GIS for validation and compilation into a database.</p> <p>No adjustments or calibrations were made to any assay data used in this report.</p>
Location of data points	<p>Datum: GDA 94</p> <p>Projection: Map Grid of Australia</p> <p>Zone: 55 South</p>
Data spacing and distribution	The soil spacing is nominally 100m x 100m as shown in the figures in the text.
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.

Criteria	Commentary
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, 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 volcanoclastics and minor basinal sedimentary 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.