



DECEMBER 2023 QUARTERLY ACTIVITIES REPORT

Key points

- **Tenement granted and diamond drilling commenced at Fosterville, with several gold mineralised structures intersected**
- **First ground electromagnetic (EM) survey underway and initial soil sampling program completed at Koonenberry**
- **S2 to earn 70% of new multi-commodity project at Warraweena in north central New South Wales**
- **A\$7 million private placement further strengthens register and ensures S2 is well funded for various exploration programs with A\$9 million cash at quarter's end**
- **Post-quarter, S2 to earn up to 70% of new copper-gold porphyry target at Glenlogan in the highly endowed Lachlan Fold Belt of central New South Wales**

CORPORATE

Finance

A total of A\$1.96 million was spent during the quarter on operating activities, comprising A\$1.53 million exploration and evaluation costs, A\$0.31 million corporate and business development costs, overheads and payments for fixed assets, A\$0.16 million staff costs, and A\$40k net interest earned.

The Company raised A\$7 million on 11th December 2023 via a well supported private placement utilising approximately 10% of the Company's issuance capacity under ASX Listing Rule 7.1 (see S2 ASX announcement of 11th December 2023). This resulted in major institutional shareholders maintaining or increasing their stake. The placement was undertaken at A\$0.17, which was a modest 12.3% discount to the 5 day volume weighted average price (VWAP) of A\$0.194 and a 42% premium to the previous placement price of A\$0.12 in February 2023.

At the end of the December quarter cash totaled A\$9.018 million.

S2 owns 75.2 million shares in Trinex Minerals Ltd (ASX.TX3, formerly Todd River Resources) equating to 5.06% of TX3 shares on issue, valued at A\$0.527 million based on a closing price of A\$0.007 per share on 22 January, and also owns 7 million shares in unlisted company Pacific State Metals (Holdings) Pty Ltd, which

plans to list on the ASX before end June 2024. Based on a nominal 20 cent share valuation this transaction was valued at A\$1.4 million. As a result, S2 has a 28.6% shareholding in PSMH, which, based on an agreed proforma capital structure post a planned Initial Public Offering (IPO) before 30th June 2024, will represent an approximate 13% holding in the listed entity post-IPO.

Capital structure

Following the private placement in December, the total issued capital as at 31 December 2023 comprises 451,857,993 ordinary shares.

Following the lapsing of older options and the approval and issuance of new ones, there are now 41.8 million unlisted options on issue (down from 50 million in the September 2023 quarter). These options are held by directors, employees and contractors of the Company and have an average exercise price of A\$0.28 per option. If exercised, this would represent a capital injection of A\$11.70 million to the Company.

Related Parties

In accordance with ASX Listing Rule 5.3.5, \$126,950 was paid to related parties or their associates during the quarter, as shown in section 6 of the Company's Cashflow Report (Appendix 5B) for the Quarter ended 31 December 2023. The payments include Non-executive Director payments of \$38,850.

EXPLORATION

Greater Fosterville Project, Victoria (100% S2)

S2's 100% owned subsidiary, Southern Star Resources, as the winner of the Victorian Government tender process for Block 4 of the North Central Gold Fields ground release, has been granted Exploration Licence EL7795, covering an area of 394 square kilometres, extending 55 kilometers north to south, and abutting and surrounding Agnico Eagle's world class Fosterville Gold Mine. By virtue of its position, its size, and its inherent prospectivity, EL7795 is a highly strategic asset.

During the Quarter, the Company's wholly owned subsidiary, Southern Star Exploration Pty Ltd ("Southern Star"), received notice from the Victorian Government that Exploration Licence 7795 (EL7795) was granted (see S2 ASX announcement of 5th October 2023). Based on the proposed work program submitted as part of the tender process, the Company has a minimum expenditure commitment of A\$10.4 million over the first five year term of the licence, inclusive of a minimum A\$2.1 million commitment in the first two years.

Following the granting of EL7795 the Company was able to rapidly commence its first drilling program, with roadside-based diamond drilling commencing in the Goornong area on 28th October 2023 (see S2 ASX announcement of 30th October 2023 and Figure 1). The overall purpose of this initial diamond drilling is to locate the down plunge extension of stratigraphic and structural targets in the Goornong area previously identified in drilling undertaken by Kirkland Lake prior to their statutory relinquishment of the ground in 2019. More specifically, the intended outcome is to define the overall stratigraphic and structural architecture as a vector to guide more targeted follow up drilling.

The drill program at Goornong is expected to extend into February/March 2024. Detailed structural and stratigraphic logging, and the receipt and integration of assays is expected to take an additional 1-2 months.

At the end of December the Company received assay results for the first two diamond holes and the top portion of the third diamond hole drilled prior to the Christmas break (see S2 ASX announcement of 27th December 2023). The results reaffirm the Company's geological model, with several gold mineralised structures being intersected.

Hole SFVD0001 tested the anticline south of previously known near surface oxide gold mineralisation where drilling by Kirkland Lake (now Agnico Eagle) had intersected low-level gold mineralisation associated with quartz vein fault structures outside of the axial zone of an interpreted anticline. This hole aimed to test the same structures where they intersect with the axial zone of the anticline and have the potential to dilate and develop into significant structural trap sites.

SFVD0001 intersected similar east and west dipping structures to that intersected by previous drill holes GSDD081, 082, 083 & 084, along strike to the north and south, enabling better definition of the structural architecture. A shallow west dipping structure that projects through the anticline close to surface, and possibly associated with the oxide gold mineralisation, returned 1.7 metres at 4.5g/t gold and 0.5 metres at 5.3g/t gold (see Figures 2 and 3). Planned follow-up drilling includes a shallower angled hole to test this structure within the core of the anticline, to be drilled during the first Quarter of 2024.

Hole SFVD0002 tested a target interpreted to be a parallel anticline corridor to the east of Goornong, where historic drilling indicated a steep west dipping mineralised fault adjacent to the anticline hinge. SFVD0002 intersected the fault with assay results of 2.1 metres at 2.1g/t gold associated with quartz veining and strong sulphide alteration around the fault. The drill hole did not reach the anticline hinge. Current interpretations suggest following the mineralised fault along strike to the north where the anticline hinge is interpreted to project.

Hole SFVD0003 is the first of four northerly directed holes intended to drill down the axial plane of the anticline to test for multiple structures that cross the axial zone of the anticline to the south of the oxide mineralisation at Goornong South (see Figures 2 to 5). Drilling to a downhole depth of 664.1 metres intersected four significant faults that offset the anticline axial plane, both east and west dipping (see Figure 4).

The upper portion of the drill hole intersected a strongly sericite-sulphide altered dyke. Significant quartz veining and alteration along the margin of the dyke returned assay results that included 11.0 metres at 1.1g/t gold from 54 metres and a further 15.8 metres at 1.6g/t gold from 184 metres including 0.4 metres at 7.5g/t gold. At 378.9 metres a significant shallow east dipping fault zone was intersected with 0.9 metres at 8.1g/t gold associated with strong sulphide alteration in the footwall to the fault. Assay results from 400 metres to end of hole at 664.1 metres are awaited.

Drilling has resumed subsequent to the end of the quarter, and is envisaged to continue into March 2024.

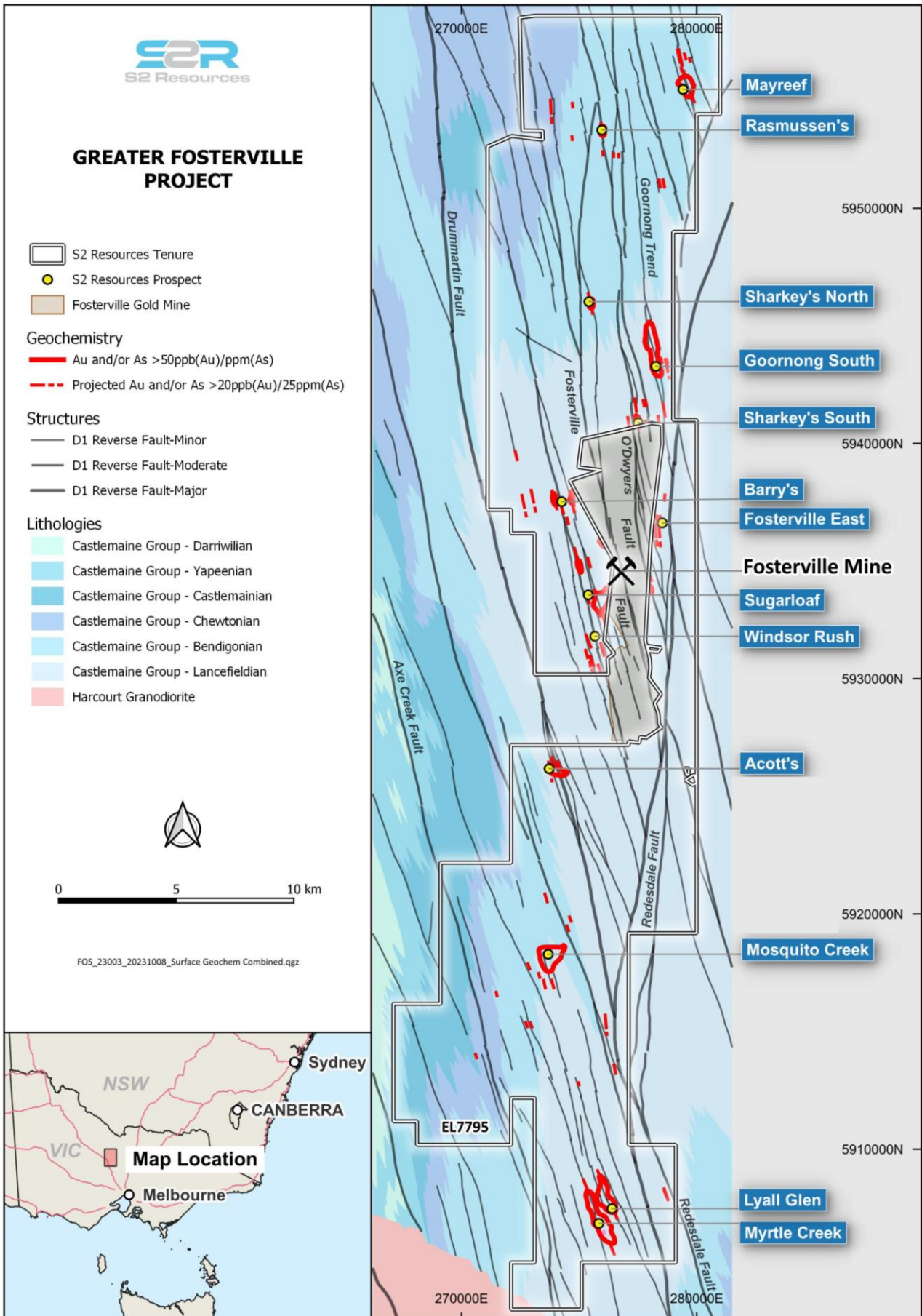


Figure 1. Map of EL7795 showing gold deposits/occurrences/prospects, key structures and stratigraphy.

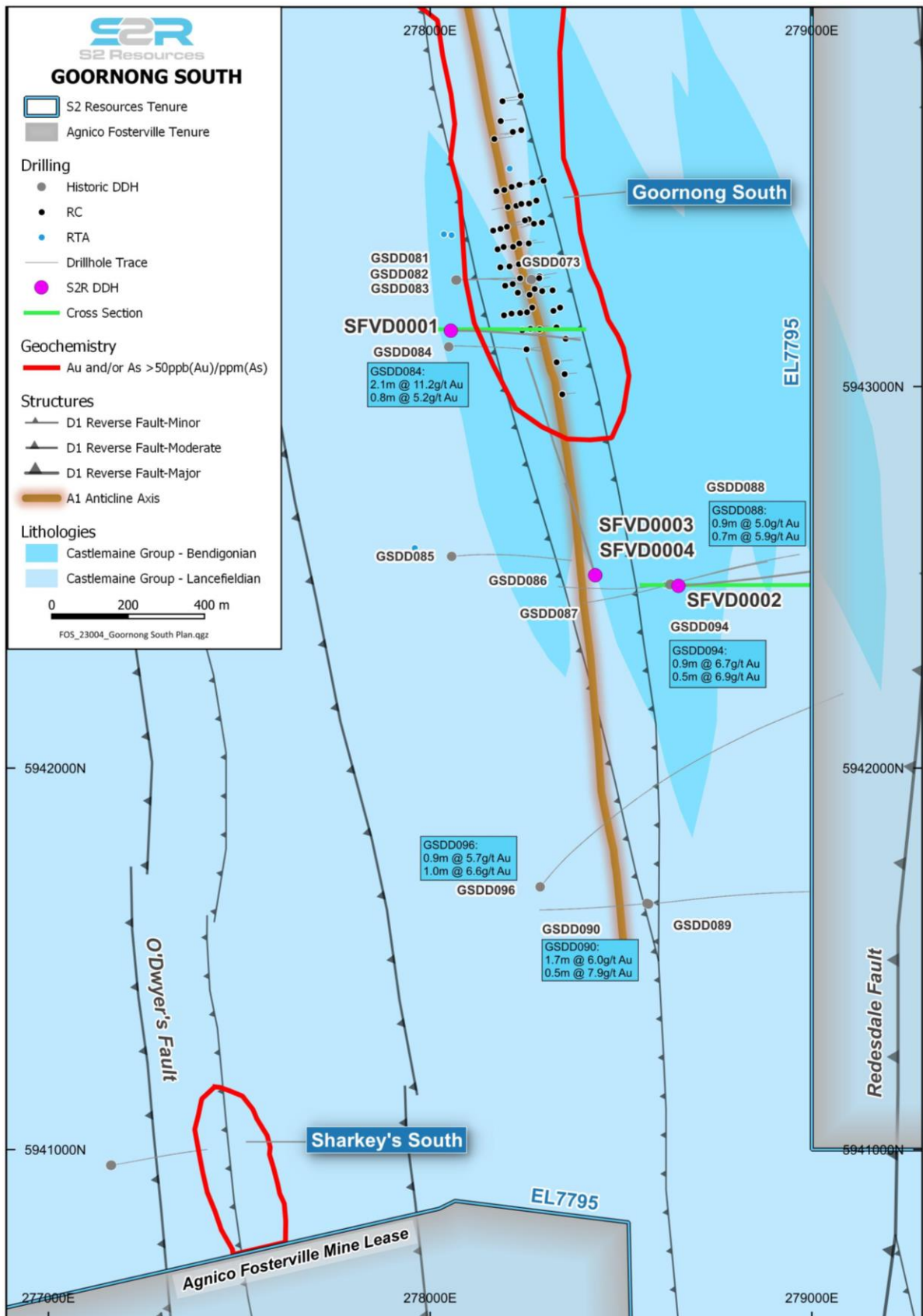


Figure 2. Map of the Goornong South area showing the diamond drill holes completed by S2 so far, gold oxide mineralised zone (historic RC drilling) and Kirkland Lake diamond drill holes drilled immediately prior to their relinquishment of the ground, aimed at testing the southerly down plunge continuation of this zone. Note, the O’Dwyer’s Fault (which contains the Robbins Hill and Curie zones further south) both extend through this area (see S2 ASX announcement of 30th October 2023).



Figure 3. Cross section of the Goornong area showing gold oxide mineralised zone, favourable anticlinal hinge zone, previous ineffective Kirkland Lake holes, and target zones where structures potentially intersect the hinge zone, refract and flatten out, and dilate, to create stacked favourable sites for gold mineralisation (see S2 ASX announcement of 30th October 2023).

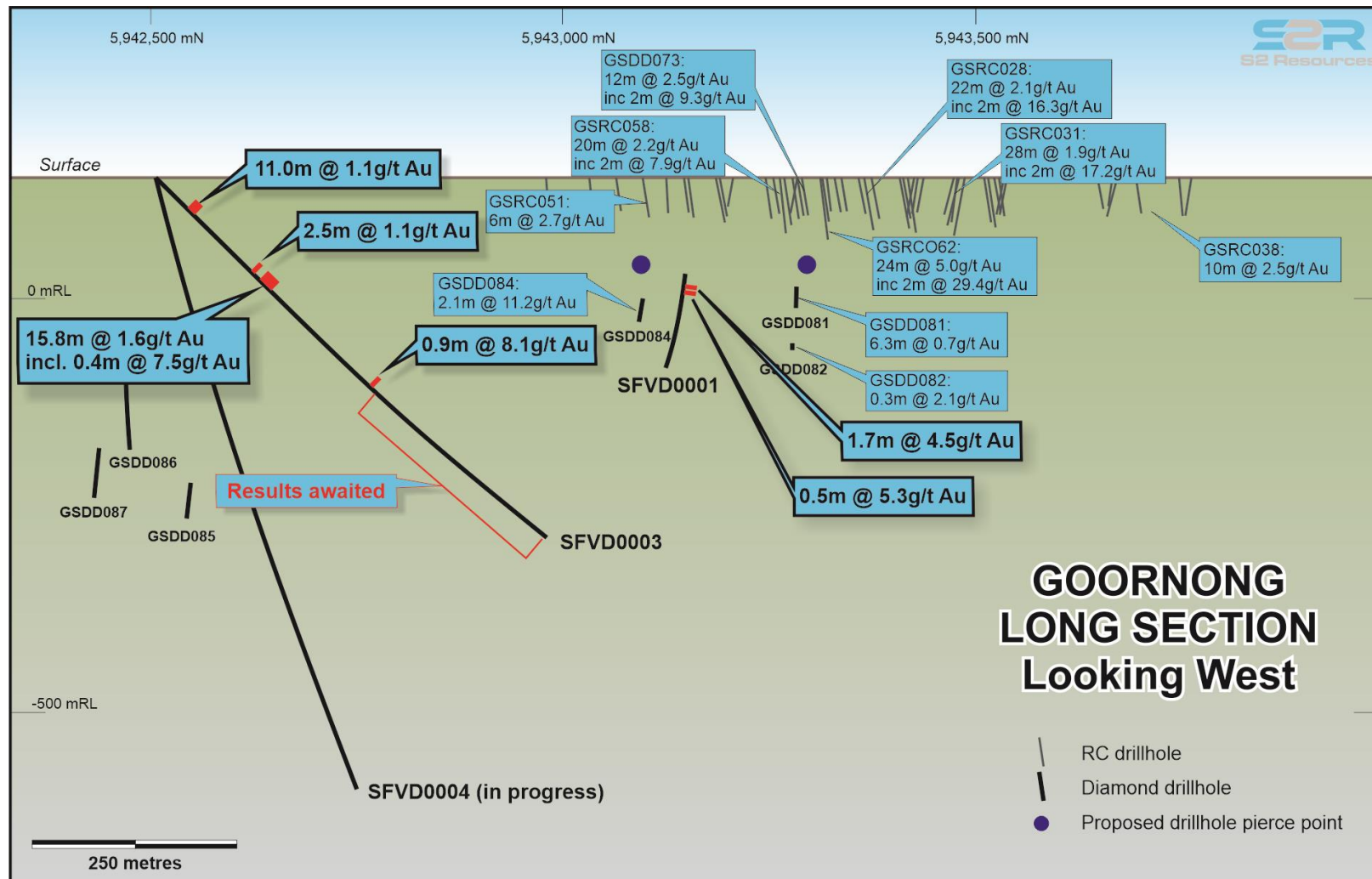


Figure 4. Long section of the Goornong South area showing the shallow oxide gold mineralised zone, and completed/proposed drill traces and pierce points immediately beneath the shallow oxide mineralisation and more conceptually the completed/proposed drill traces parallel to the axial plane that are testing multiple structural positions that could occur within the anticline corridor being targeted – figure 4 shows the schematic cross section that illustrates the structure being targeted within the favourable anticline corridor.

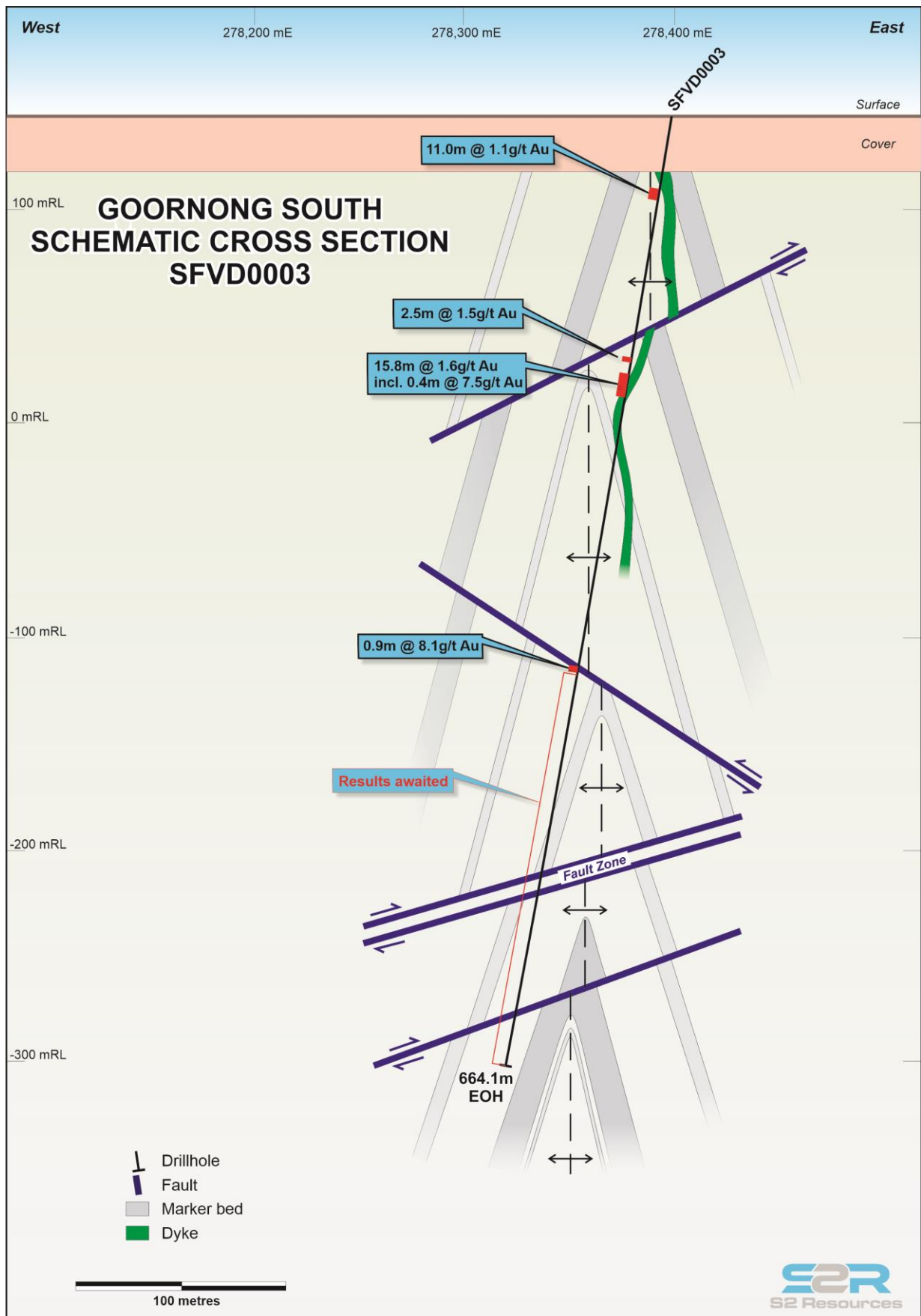


Figure 5. Schematic cross section for drill hole SFVD0003 that drilled towards the north down the axial plane, testing multiple structures that cross the favourable anticlinal hinge zone.

Goornong prospect background

Previous exploration has identified a strongly mineralised corridor centred on the Goornong South prospect where drilling during the 1990's intersected significant oxide gold mineralisation. During the last year that the exploration licence was held by Kirkland Lake (now Agnico Eagle) a series of diamond drill holes were completed to the south along strike of the historic oxide mineralisation. S2 Resources has been able to relog the Kirkland Lake core holes and use the information to interpret the stratigraphic and structural architecture of what is now interpreted to be the next parallel structure to the east of the O'Dwyers and Fosterville trends, which host the orebodies being mined by Agnico Eagle. This first drill program by S2 Resources, is testing immediately beneath and down plunge to the south of the Goornong South oxide mineralisation, testing multiple structures where they cross the main anticline that is interpreted to be the focus for mineralised fluids. Along the favourable anticline corridor any mineralised structure could refract into a favourable dilation position with the potential to form a significant high-grade trap for gold mineralisation akin to the Swan Zone (the Swan Zone, located along the Fosterville trend, had an initial Mineral Ore Reserve of 2.34Moz of gold at a grade of 49.6g/t, refer to the NI 43-101 Report dated 31 December 2018).

To effectively test for significant mineralisation along the Goornong South anticline trend S2 Resources is undertaking a combination of conventional across strike holes in the shallower part of the system and unconventional strike parallel holes down the axial plane of the target anticline corridor that test multiple structural positions that cross the anticline (see Figure 6). The axial plane holes are designed to test positions down plunge to the south of the oxide gold mineralisation as well as numerous other mineralised structures intersected by the historic diamond drilling completed by Kirkland Lake, any one which could yield a significant discovery where they refract and dilate across the fold corridor.

The strike parallel holes drilling down the axial plane will continue to 800 metres depth. This will allow these drill holes to test for multiple structural levels within the anticline corridor. It is interpreted that favourable geometry for significant mineralisation will be where structures refract into relatively flat positions across strike, where they pass through the hinge zone. Current interpretations provide for south plunging anticline hinge zones and a parallel plunge to mineralised fault intersections. Drilling is angled towards the north to provide the optimal intersection angle for south plunging shoots, with angled drilling enabling core orientation and detailed structural measurements which are vital to interpreting the three-dimensional position of structures relative to local stratigraphy and the overall architecture, such that any near misses can be interpreted for later drill follow-up.

The first pass drill program is designed to deliver a more detailed understanding of the structural and stratigraphic architecture of the Goornong South trend. The shallow drill holes beneath the oxide gold mineralisation will provide the first oriented core holes across the entire width of the anticline corridor, proximal to significant gold mineralisation so as to provide critical information on the orientation and continuity of gold mineralised structures at this location. The deeper axial plane parallel drill holes are spaced to provide a better understanding of the distribution of alteration, the validity of the overall south plunging fold model, and the potential to identify a larger mineralised shoot early in the exploration program. Drilling will be a direct test of some specific target positions interpreted from previous drilling, as well as providing new information with which to vector towards targets in subsequent follow-up drill campaigns.

The broad spacing of these holes is tailored to finding as large gold deposit, so it is important to not be mesmerised by narrow high grade intercepts and to not drill too close too soon – a situation that can result in overdrilling and overspending for too few ounces defined. As previously stated, it is important to first understand the overall three dimensional stratigraphic and structural architecture before attempting to zero in on sweet spots.

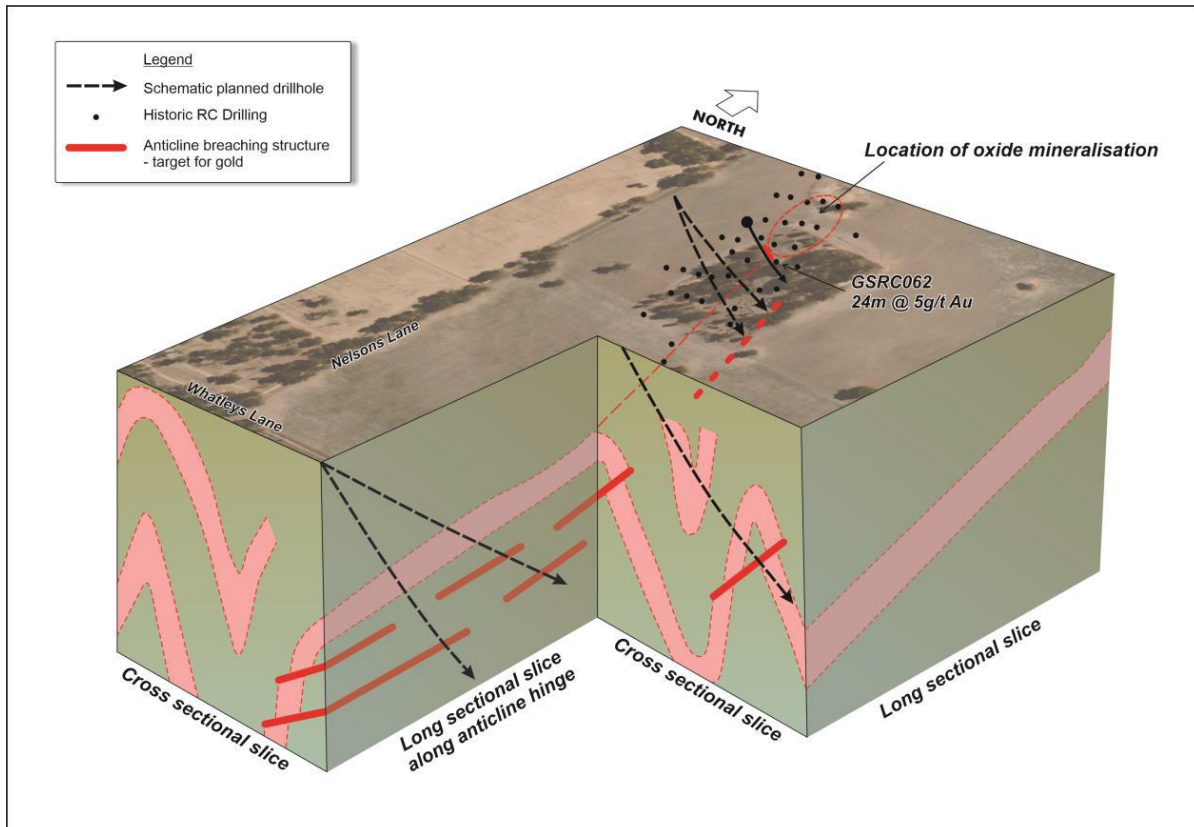


Figure 6. Schematic block model of the Goornong area showing the south plunging fold structures and the targeted fault structures intersecting anticlines. Drilling will include both across strike (conventional) testing of mineralised structures (as shown in the cross sectional slices) and along strike (non-conventional) testing of multiple structural positions within the favourable Goornong anticline trend (as shown in the long sectional slices). Drillhole positions are illustrative only and locations may vary.

Project background

S2's 100% owned subsidiary, Southern Star Exploration Pty Ltd, was announced as the winner of the highly competitive tender for the sole right to apply for an Exploration Licence (EL) over the ground surrounding Agnico Eagle's (Agnico) world class Fosterville gold mine in October 2021 (see S2 ASX announcement of 29th October 2021). The EL application was submitted in late 2021, and various Traditional Owner-related preconditions were satisfied recently (see S2 ASX announcement of 4th July 2023). Agnico's Fosterville gold mine includes the Swan Zone that had an initial Mineral Ore Reserve of 2.34Moz of gold at a grade of 49.6g/t (refer to the NI 43-101 Report dated 31 December 2018). By virtue of its position, entirely surrounding Agnico's mine lease, its size, and its inherent prospectivity, ELA7795 is a highly strategic asset.

As winners of the tender, S2 has inherited a substantial amount of data acquired by previous explorers over the area, including the relatively recent exploration work undertaken by Kirkland Lake Gold (the owner of Fosterville prior to its acquisition by Agnico) on the tenement before it expired.

This data includes extensive and high quality geophysical and geochemical surveys such as gravity, induced polarisation (IP), electromagnetic (EM), seismic, magnetic and LIDAR surveys, which are being used to generate drill targets. The inheritance of such a significant amount of data represents a huge saving for the Company in terms of time and money that would otherwise be required to get it to the point of having drill ready targets for testing.

It also includes drilling data and drill core from holes drilled immediately prior to the expiry of the previous tenement, which although widely spaced and/or shallow and/or highly localised, have identified gold mineralisation in several locations. As a consequence, the Company has a range of targets at various stages of definition from early stage reconnaissance up to and including defined prospects simply requiring further drilling to determine the extent and quality of gold mineralisation at those locations.

These targets are located on a mix of Crown Land, freehold land (both broadacre farms and smaller blocks), and road reserves, which require the Company to obtain land access agreements and other relevant permits, as well as heritage clearances, before commencing exploration¹.

¹ Until such time as access consents are obtained there is no guarantee that the Company will be able to access freehold property, but a substantial amount of drilling can be undertaken from roadsides.

Koonenberry nickel-copper-PGE project, New South Wales (S2 100%)

S2 has three Exploration Licences covering 2,712 square kilometres in northern New South Wales (NSW) extending for a strike of approximately 140 kilometres along the Koonenberry Belt. The scale and cratonic margin setting of this belt is analogous to the Fraser Zone of the Albany Fraser Orogen, which hosts the Nova-Bollinger nickel-copper-cobalt deposits and the Tropicana gold deposit. The belt also contains early breakup gabbros and likely comagmatic orthocumulate ultramafic picrite sills and intrusions, considered petrographically similar to those that host mineralisation in the Russian Pechenga nickel-copper-PGE camp.

During the quarter, S2 commenced its maiden ground-based electromagnetic (EM) survey (see S2 ASX announcement of 23rd October 2023). The initial EM survey will cover two parts of the Company's tenure following the signing of land access agreements with relevant pastoral lease holders (see Figure 7).

The EM program was primarily completed using moving loop (MLEM) survey configuration utilizing the highly sensitive deep penetrating ARMIT B-field system, although a fixed loop (FLEM) survey configuration was used where topography was not amenable for MLEM.

In addition, a trial soil sampling program was completed over the southern EM grid area, where mapping indicates the ground conditions should be amenable. Soils were collected on a nominal 80 metre spacing, on lines 400 metres apart and submitted to Labwest in Perth for analysis using the UltraFine+™ analysis process (-2µm).

Results of the EM survey and soil program are still pending at the time of writing.

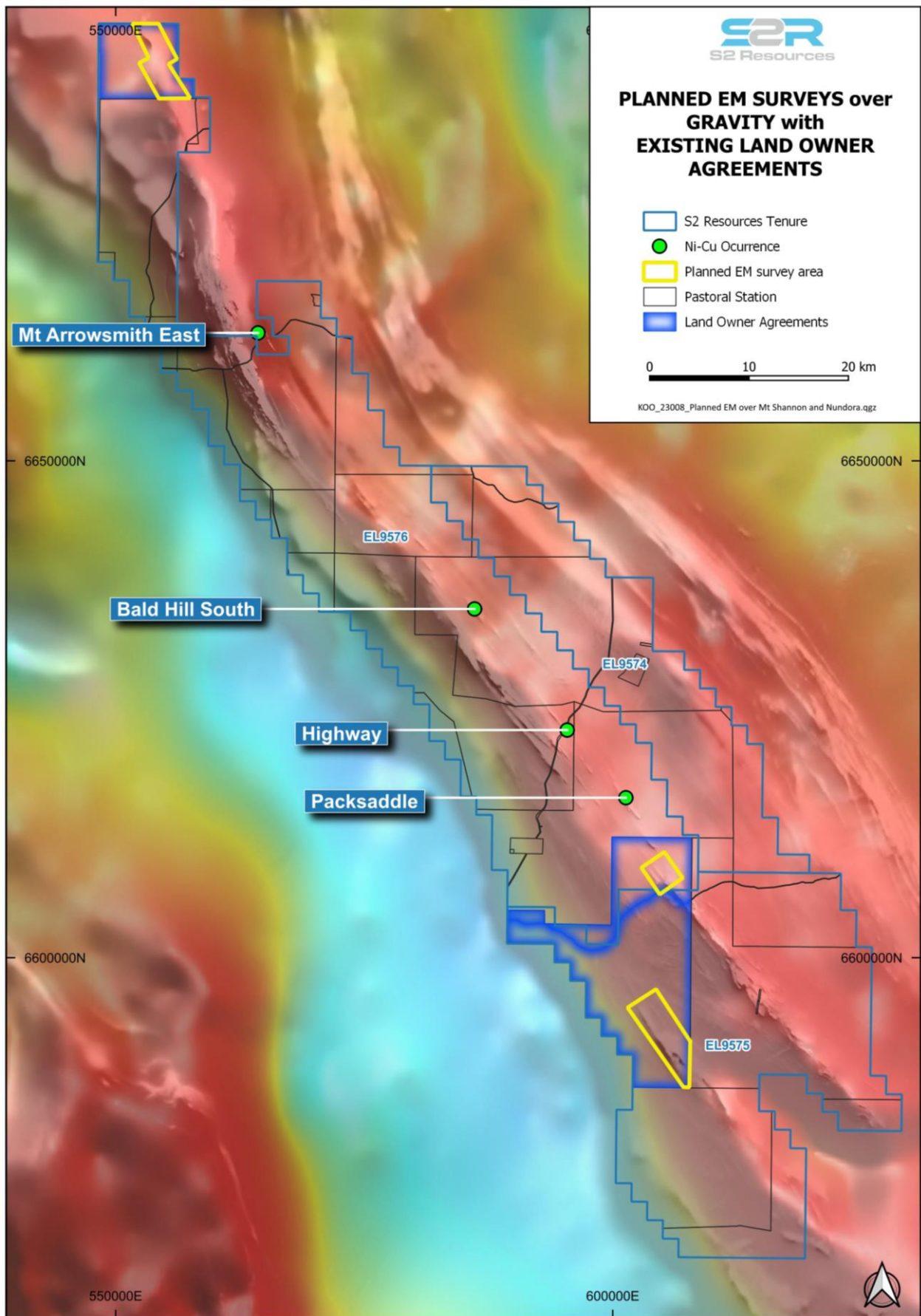


Figure 7. Location of completed ground EM surveys at Koonenberry.

Warraweena project, New South Wales (S2 earning 70%)

In December, the Company entered into an agreement with private prospect generator company Oxley Resources Limited (“Oxley”) to earn a 70% interest in the Warraweena project, which comprises Exploration Licence EL9269 covering an area of 932 square kilometres, located to the northeast of Bourke in northern New South Wales (see S2 ASX announcement of 4th December 2023 for details of the project and earnings terms).

S2 identified the area as an attractive target based on the presence of coincident distinct, unexplained gravity and magnetic anomalies (see Figures 8 and 9), concealed beneath the transported cover of the upper Darling River drainage catchment and younger overlying rocks. Limited previous drilling that has penetrated into the basement rocks has also identified mafic (and possible ultramafic) rocks associated with these anomalies.

Furthermore, it is also the location of a strongly anomalous heavy mineral concentrate sample identified in the Australia-wide Heavy Mineral Map of Australia publicly released on 12th October 2023². This heavy mineral concentrate sample contains the highest number of pentlandite (nickel sulphide) grains recorded in any of the 1,315 samples collected in the Australia-wide survey (10x the next largest sample). It also contains the second highest concentration of chalcopyrite (copper sulphide) and sphalerite (zinc sulphide) of all samples in this survey (see Figures 10 and 11).

In addition, petrological and geochemical studies undertaken from the limited drilling, completed by previous explorers, show the basement rocks display calc-alkaline to shoshonitic volcanic island-arc affinities, similar to rocks from the Macquarie Arc, that hosts the Cadia and North Parkes copper-gold porphyry deposits to the south. The presence of several prominent “holes” in the magnetic data is also suggestive of the presence of plutons intruding the country rocks.

The project is also potentially prospective for Cobar basin style massive sulphide (Zn-Pb) mineralisation.

S2 also applied for two additional exploration licenses adjacent to EL9269, to cover the gravity and magnetic anomalies, totaling an additional 1670 square kilometres of coverage upon grant.

A broadbrush electromagnetic (EM) and/or induced polarization (IP) geophysical survey is planned to commence later in the March quarter.

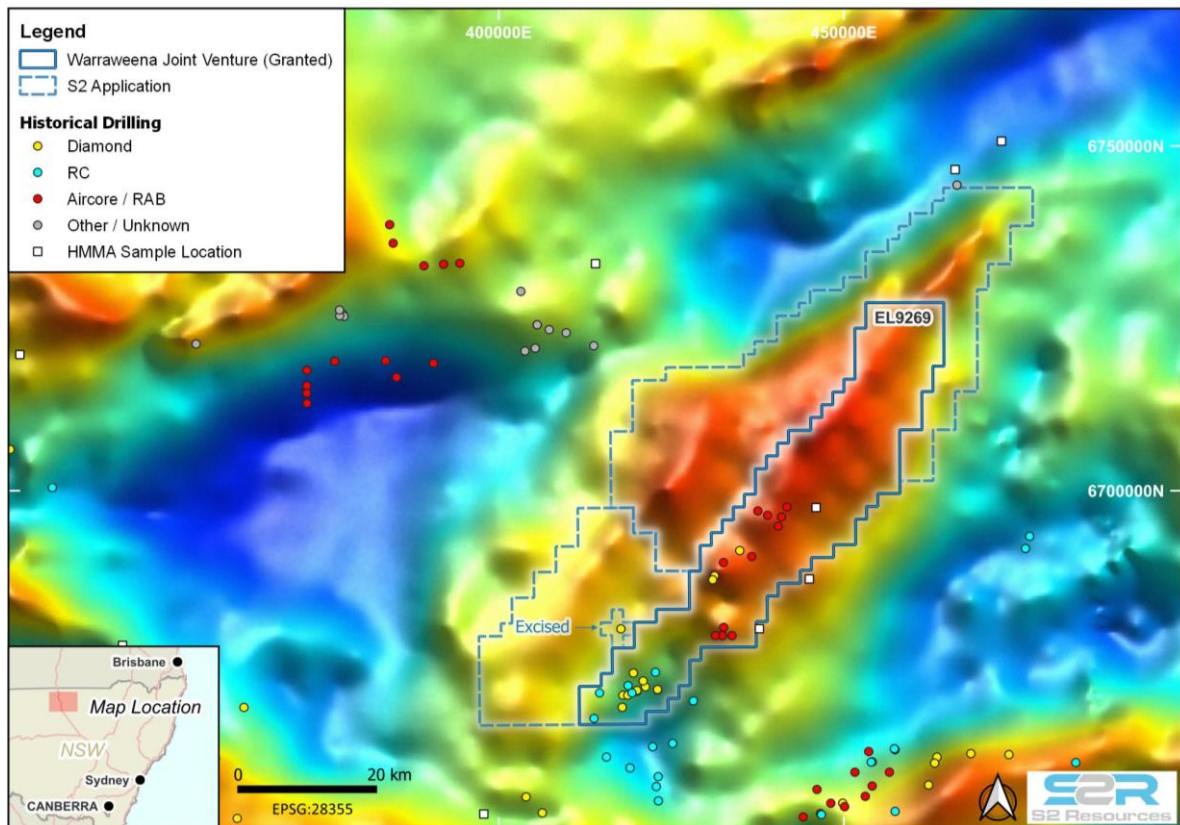


Figure 8. Gravity map showing pronounced 50km long dense ridge hidden beneath the transported cover of the upper Darling River drainage catchment, showing outline of EL9269 and recent S2 applications along with the location of limited previous (and in many cases ineffective) drilling.

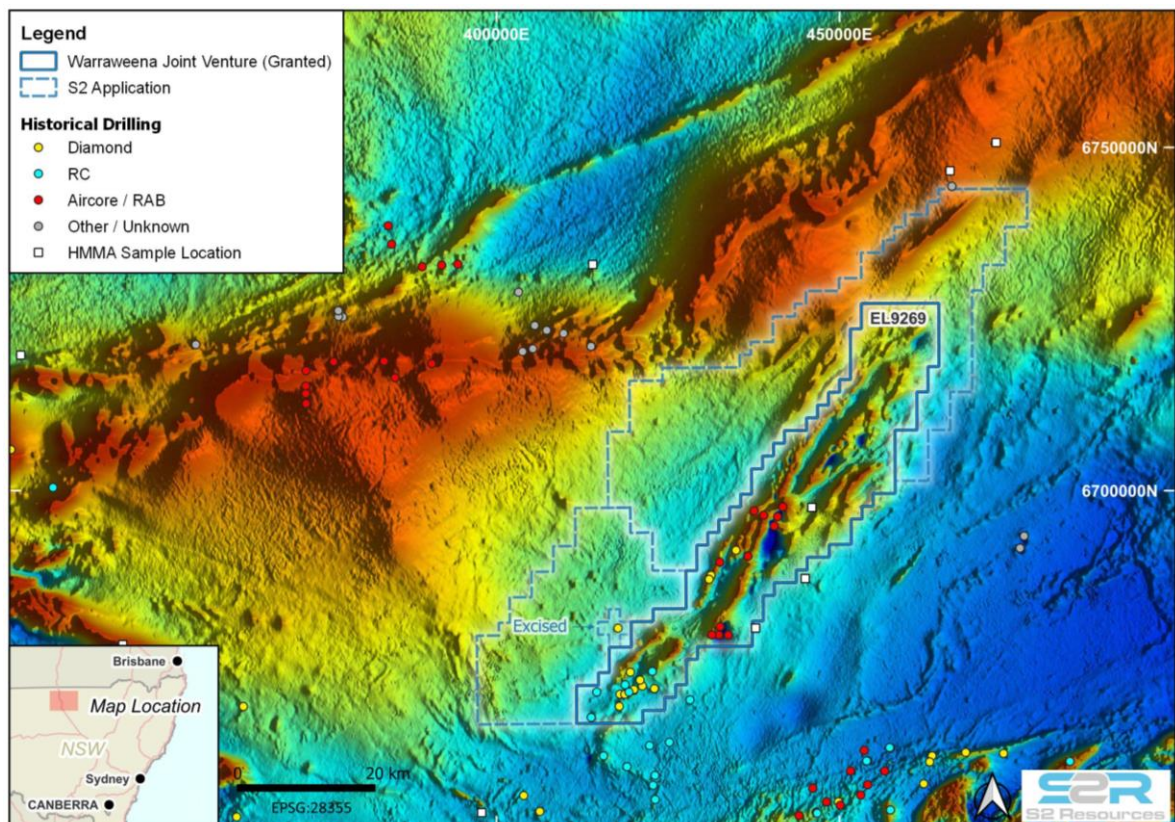


Figure 9. Magnetic map showing numerous discrete magnetic bodies hidden beneath the transported cover of the upper Darling River drainage catchment, showing outline of EL9269 and recent S2 applications along with the location of limited previous (and in many cases ineffective) drilling.

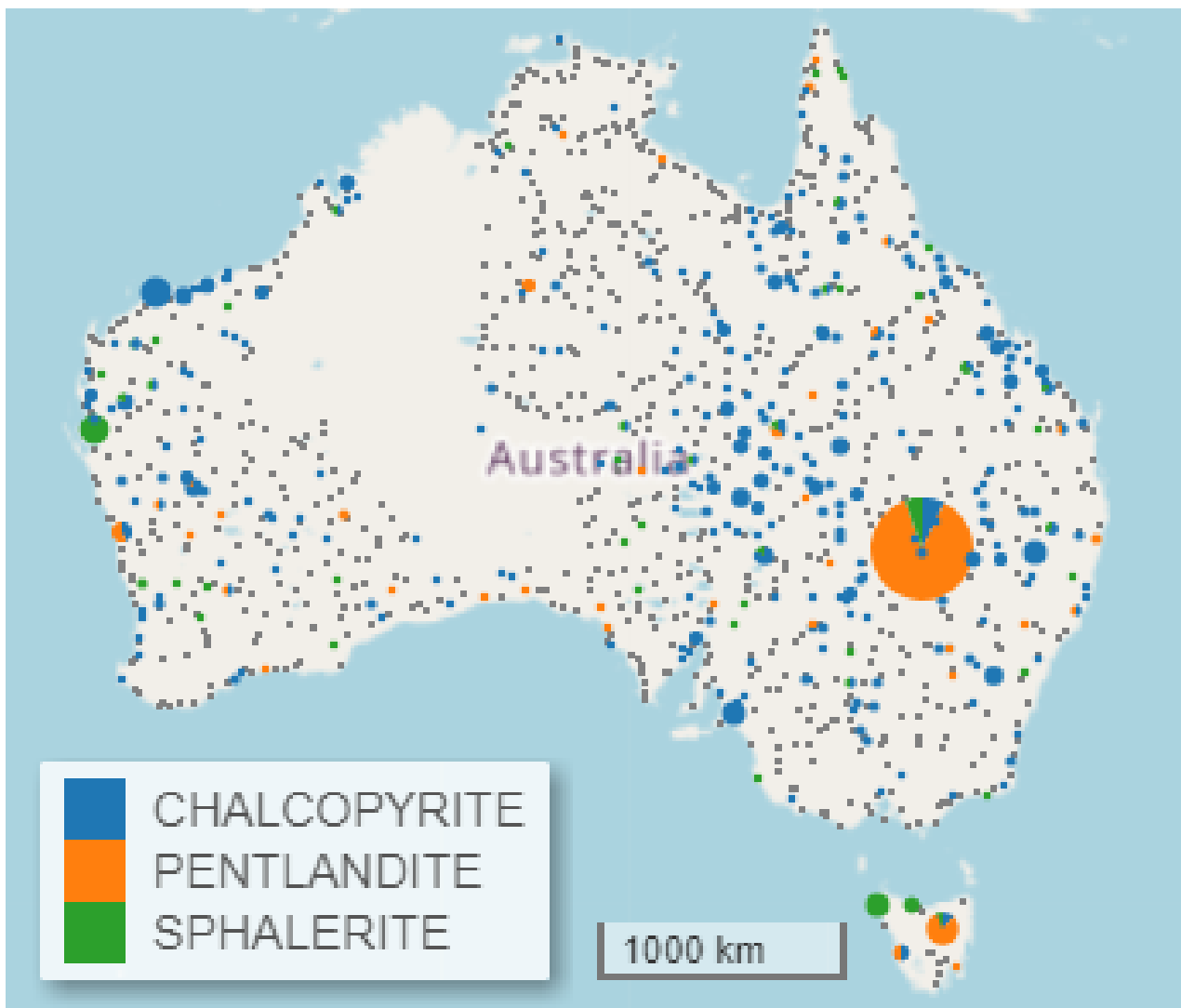


Figure 10. Recently published Heavy Mineral Map of Australia (HMMA) showing the concentration of pentlandite, chalcopyrite and sphalerite in all 1,315 samples collected across Australia. The bubble sizes represent the abundance of these minerals and the pie slices depict the relative abundance of each of these minerals in each sample. The sample collected in the target drainage catchment contains far more pentlandite than any other sample in Australia and the second highest abundance of chalcopyrite and sphalerite in all of those samples.

² Heavy Mineral Map of Australia (HMMA) is a joint initiative by Geoscience Australia and Curtin University, as part of the Commonwealth government “Exploring for the future” program. See <https://dx.doi.org/10.26186/148916>

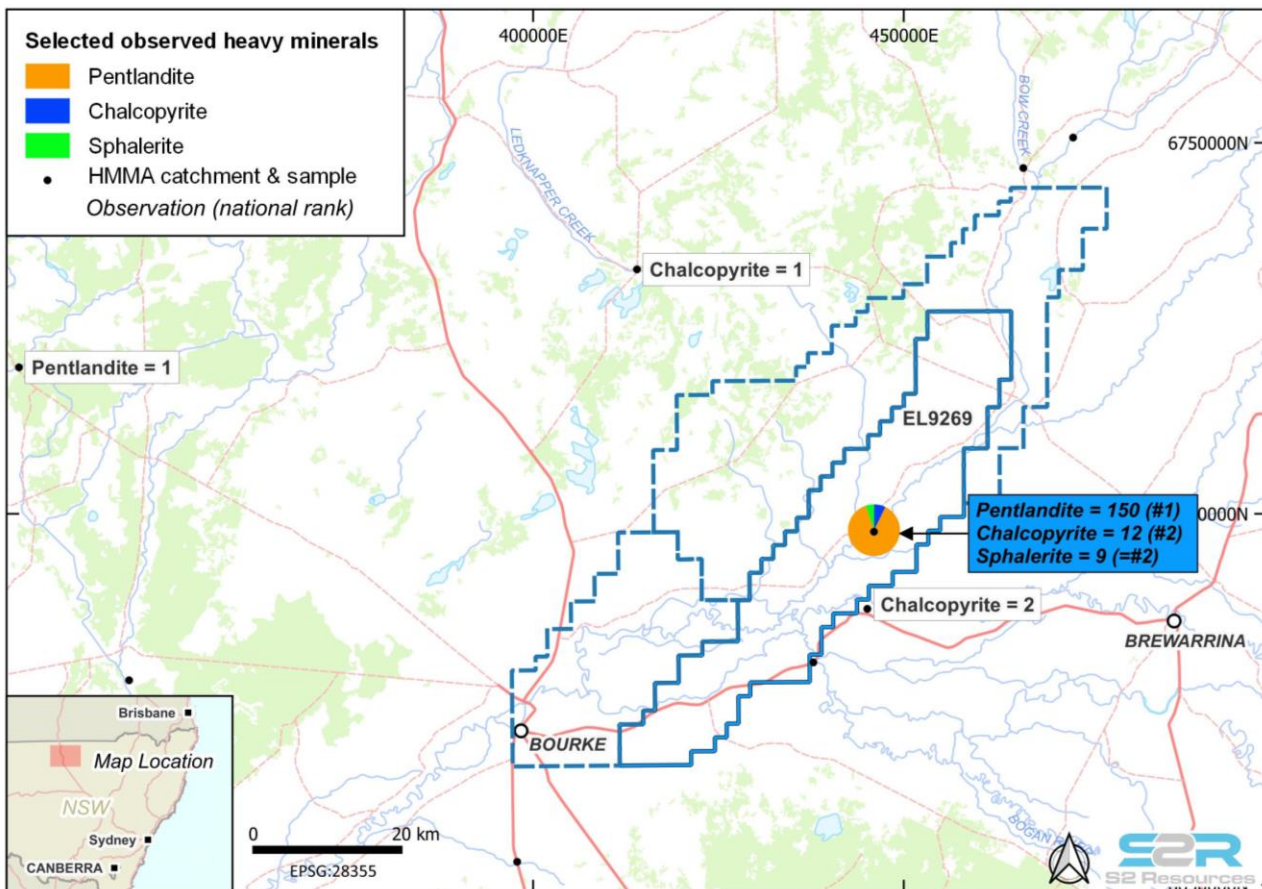


Figure 11. Zoomed in view of the HMMA, showing the anomalous sample in the drainage catchment over the target, its location within EL9269, and adjacent samples for contrast. The number of mineral grains and the overall ranking of these in the Australia-wide dataset are also shown.

Jillewarra gold and base metals project, Western Australia (S2 earning 70%)

S2 is earning a majority interest in the Jillewarra project which covers 793 square kilometres of gold and base metal prospective greenstones situated approximately 50 kilometres west of Meekatharra in the Murchison Goldfields of Western Australia. Jillewarra is an under explored Archaean greenstone belt with very limited drilling below 70 metres. S2 is taking a systematic approach to identify and drill test targets throughout the Jillewarra Belt. To date, over 30 targets have been identified based on structural and geological interpretation, evidence of historical workings and historic exploration data.

No on-ground exploration activities were conducted at Jillewarra during the December Quarter.

Negotiations continued with the traditional owners with respect to a heritage protection agreement that is a prerequisite to the granting of several exploration licence applications covering the large, concealed gold target located in the southeastern part of the project area. This target comprises 35 kilometres of strike length of the shear zone that hosts Westgold's Big Bell gold mine to the south. This shear zone is concealed by transported cover and effectively unexplored. Once this ground is granted it will become the main focus of S2's exploration at Jillewarra.

Glenlogan copper-gold project, New South Wales (S2 earning up to 70%)

Subsequent to the end of the quarter the Company reached agreement with Legacy Minerals (“Legacy”, ASX:LGM) to earn up to a 70% interest in the Glenlogan project, which contains a large untested porphyry copper-gold target known as Shellback (see S2 ASX announcement of 29th January 2024). This is a deep but potentially significant target and fits the Company’s strategy of pursuing high risk but potentially high reward opportunities.

The Glenlogan project is located in the highly endowed Lachlan Fold Belt of New South Wales, which contains a number of major gold/copper deposits, including Newmont’s Cadia-Ridgeway operations (36.6Moz gold/8.3Mt copper), Evolution Mining’s Cowal (8.8Moz gold) and North Parkes (3.3Moz gold/2.9Mt copper) mines, and Alkane’s Tomingley (1.8Moz gold) mine and Boda (8.4Moz gold/1.5Mt copper) deposit (see Figure 12)³.

The project area covers 85 square kilometres and amongst other features contains a prominent magnetic anomaly, known as Shellback (see Figure 13). This anomaly is located adjacent to a major fault and is interpreted to occupy Ordovician age rocks buried beneath younger rocks of Silurian age (see Figure 14). It has never been tested, with previous drilling comprising several shallow holes that finished well above the target zone, and a single deep hole drilled 1 kilometre to the west of it. Depth modelling of the anomaly by Rio Tinto in the 1990’s concluded that the body, deemed to be 800 metres deep, was too deep to pursue.

Recent inversion modelling by Legacy has indicated that the magnetic body sourcing this anomaly is shallower than previously thought⁴, and independent inversion and forward modelling of the data by S2 supports this view, with the depth to the body estimated to be 450-600 metres below surface.

The anomaly models as a broadly cylindrical magnetic body, commencing at a depth of 450-600 metres below surface, with a diameter of approximately 600 metres and a vertical extent of approximately 1,000 metres, using a magnetic susceptibility comparable with Newmont’s Ridgeway copper-gold porphyry deposit located only 50 kilometres to the northeast. It is interpreted to be hosted within Ordovician Macquarie Arc volcanics and overlain by Silurian rocks of Llandoverly age.

As detailed in Legacy’s ASX announcement of 9th November 2023, the only deep hole in the area, DDHCV1, drilled by Mines Exploration in 1982, is located 1 kilometre to the west of the Shellback anomaly. This hole intersected Devonian sedimentary rocks thought to be occupying a downfaulted block to the west of the Shellback anomaly.

Shallow percussion holes drilled in 1992 by Placer Exploration Limited intercepted altered monzonite directly above the Shellback anomaly. Drill holes CRB7 (56m) and CRB57 (96m) intersected strong chlorite-sericite-quartz-zeolite alteration, comparable to the propylitic alteration commonly found distal to porphyry systems. However, these holes did not reach the Ordovician basement. Post mineral intrusions are common in large, long lived porphyry systems and as such the observation of monzonite in drilling is considered encouraging for a large and older intrusive complex at depth in association with the magnetic anomaly.

Rio Tinto subsequently modelled the Shellback magnetic anomaly as being at a depth of 800 metres, and on this basis concluded that it was too deep to be of interest.

Recent remodelling of the original source magnetic data using more advanced inversion modelling techniques now indicates that the body sourcing the Shellback anomaly is likely to start much closer to surface, potentially in the 450-600 metre depth range.

The magnetic body is interpreted to be an intrusion within the Ordovician Walli Volcanic group (467.3-452.9 million years ago, “Ma”) and overlain by a thick sequence of Silurian sedimentary and volcanic rocks, including the Canowindra Volcanics of Llandovery age (440.8-438.5 Ma) and the Avoca Valley Shale (440.8-425.6 Ma).

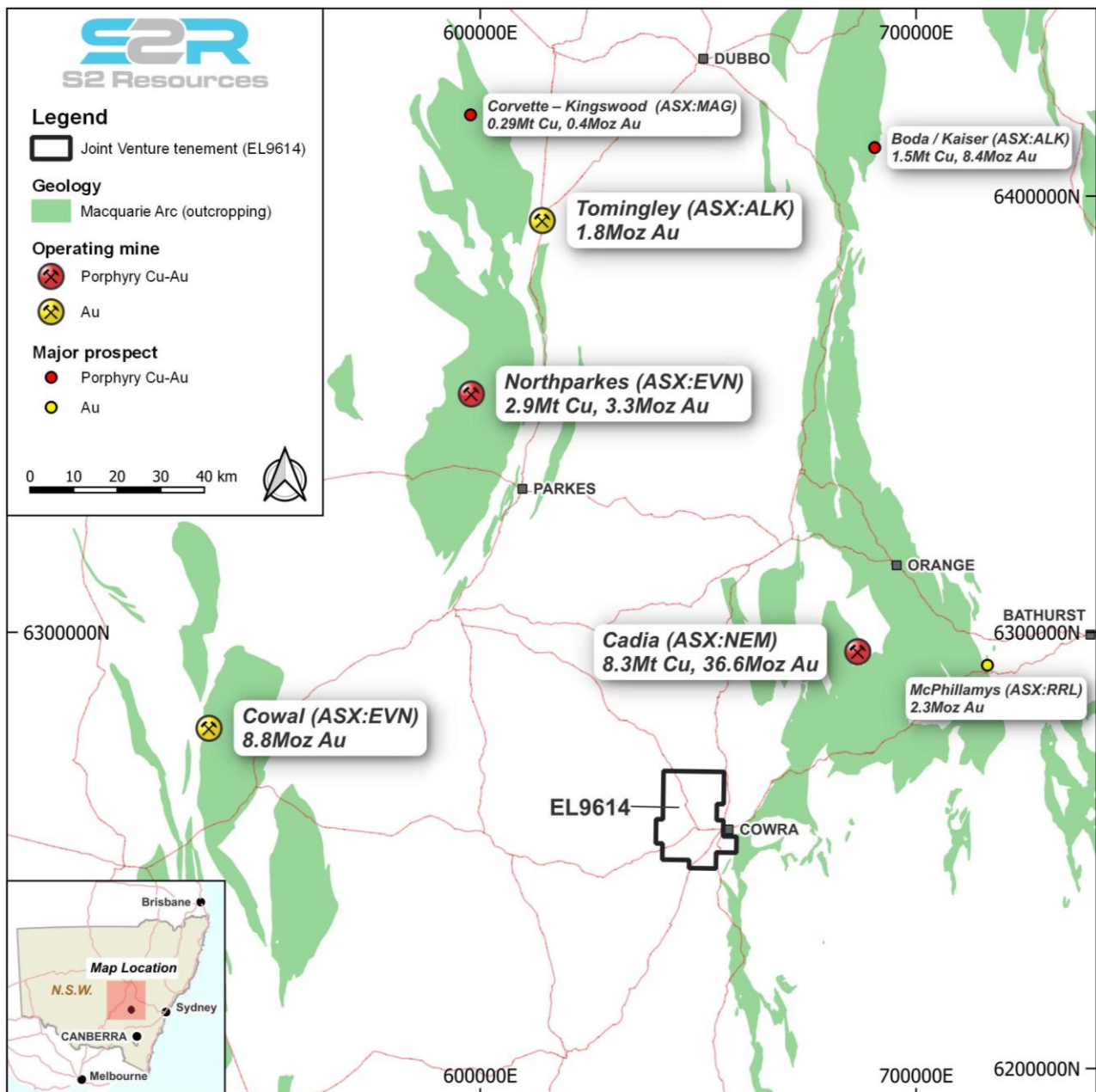


Figure 12. District scale map showing location of the Glenlogan project (EL9614) relative to outcropping prospective Macquarie Arc rocks and known copper-gold occurrences. The project area is immediately west of outcropping Macquarie Arc rocks where they are interpreted to lie beneath younger (Silurian/Devonian) sequences.

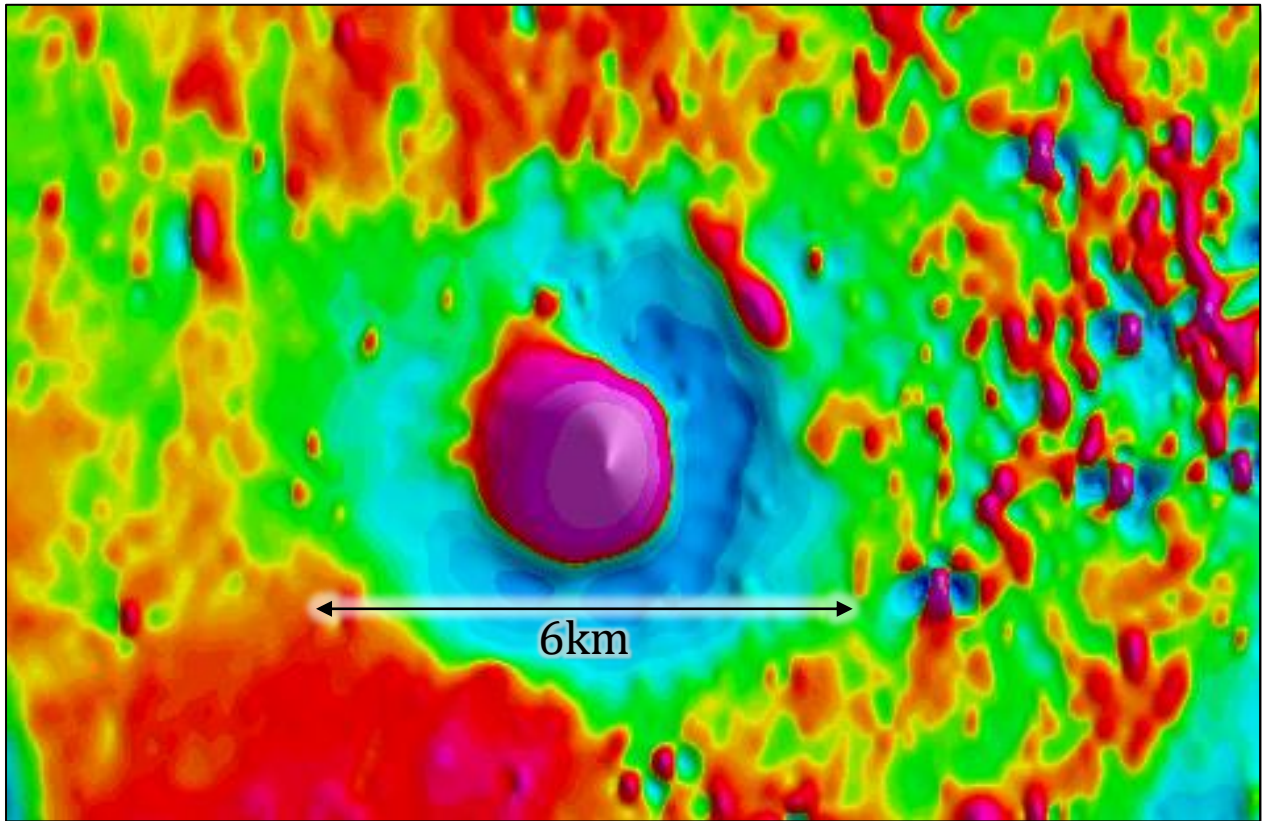


Figure 13. District scale reduced to the pole aeromagnetics showing the Shellback magnetic anomaly, with strongly magnetised core and peripheral magnetic low.

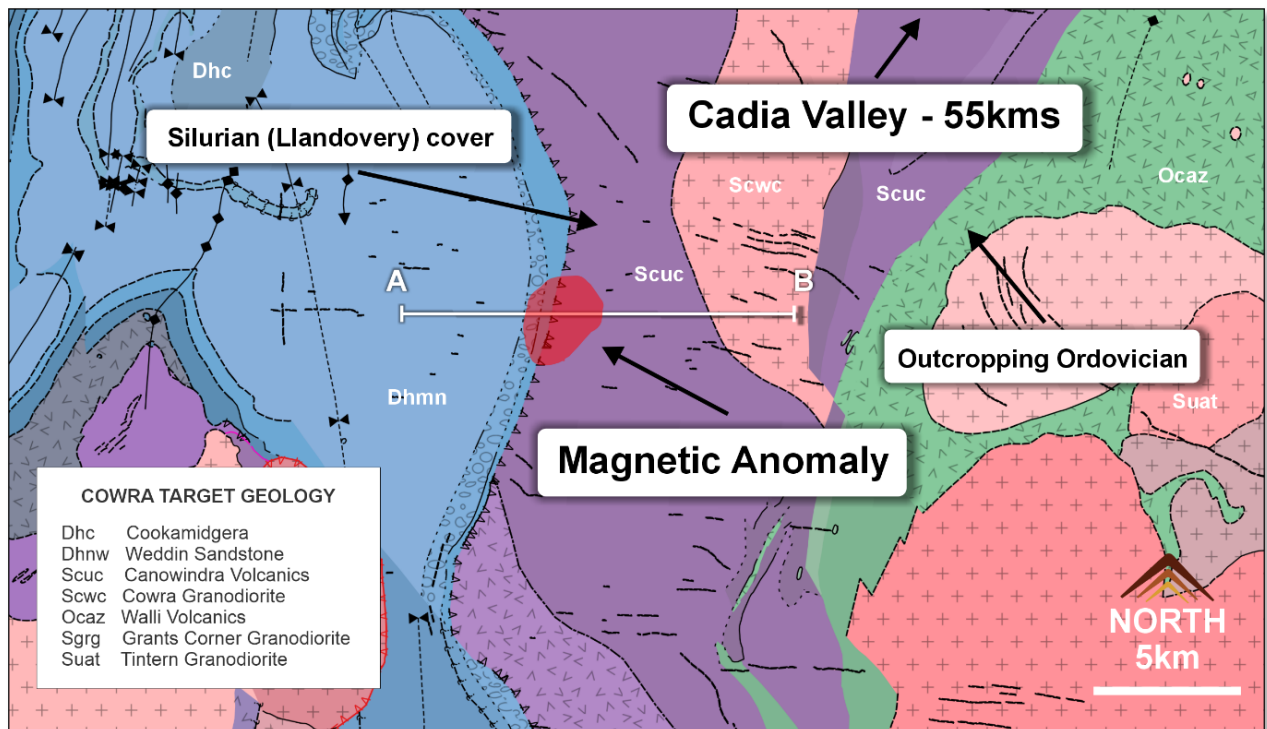


Figure 14. District geology map showing location of Shellback anomaly adjacent to a fault bend and buried beneath Silurian age rocks.

The interpreted position of the Shellback anomaly, within Ordovician volcanics but not in the overlying Silurian rocks, suggests that the magnetic body was emplaced during the early Silurian to late Ordovician, at approximately the same time as the Cadia Valley porphyry complex (435.9 – 459.7Ma). Furthermore, the Silurian (Llandoverly) age cover sequence may have been critical in the preservation of any potential porphyry mineralisation (see Figures 15 and 16), as it was for the preservation of the Cadia Valley porphyry district.

By way of comparison, the Cadia East deposit located approximately 55km northeast of Shellback, was discovered through drill targeting of a magnetic high anomaly buried beneath Silurian (Llandoverly) age cover. In this case, 2D inversions of ground magnetic data suggested that a 221 metre hole previously drilled by Pacific Copper did not properly test the magnetic ‘high’ anomaly at Cadia East. As a result, a vertical core hole (NC104) drilled to 404 metres in early 1994 intersected magnetite veins, monzonite dykes, and increasing copper grades at depth, and follow-up drilling discovered the Cadia East deposit beneath the Silurian (Llandoverly) sedimentary cover.

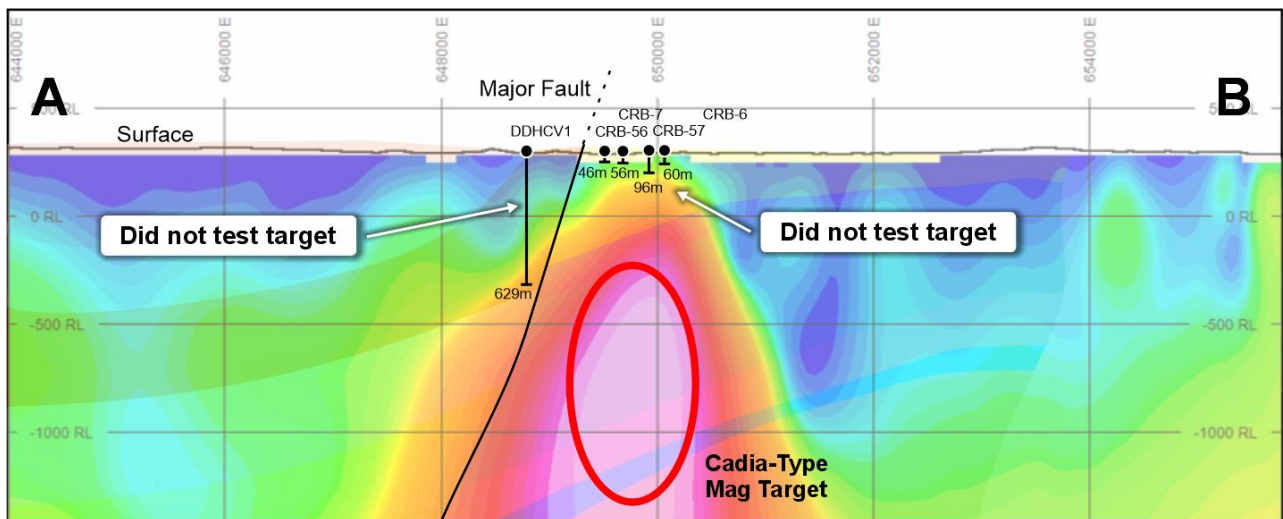


Figure 15. Cross section A-B showing 3D inversion model magnetic susceptibility and previous drilling.

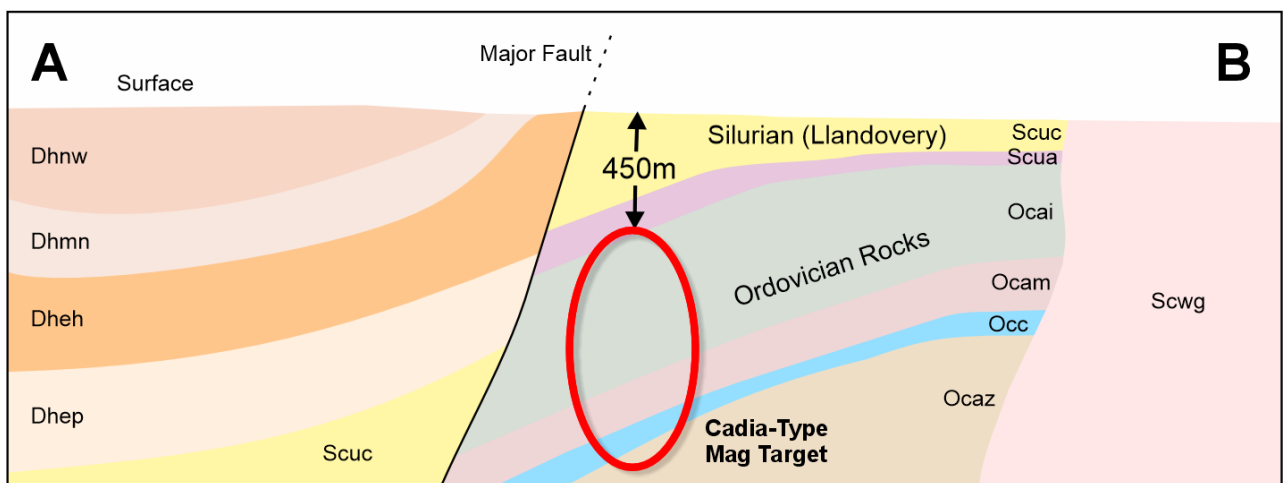


Figure 16. Cross section A-B showing location of magnetic anomaly within interpreted geology, showing anomaly within Ordovician rocks and overlain by younger Silurian cover.

Comparable aeromagnetic responses to the Shellback anomaly have also been reported at other major porphyry copper-gold deposits, including Ridgeway and Cadia East (Australia), Grasberg (Indonesia), Alumbraera (Argentina), and Buenavista Del Cobre (Mexico)ⁱ, where a central magnetic high is associated with chalcopyrite-bornite-magnetite mineralisation in proximal potassic alteration zones, and surrounding annular magnetic lows are related to magnetite destructive hydrothermal alteration of surrounding rocks.

³ Refer to S2 ASX announcement of 29th January for source information

Polar Bear nickel-copper-PGE project, Western Australia (S2 80% - 100% of Nickel Rights)

S2's holds the nickel rights over an area of 435 square kilometres to the southeast of the Widgiemooltha and Kambalda nickel sulphide belts. S2 retained these rights when it sold the Polar Bear project (comprising the Polar Bear and Norcott projects and the Eundynie Joint Venture) to Higginsville Gold Operations (now owned by Karora Resources Inc.). The nickel rights include the Halls Knoll, Taipan and Gwardar nickel prospects.

No on-ground exploration activities were conducted at Polar Bear during the December Quarter.

Central Lapland Greenstone Belt, Finland (S2 100%), including Kinross Gold farm-in (S2 diluting to 30%) and Rupert Resources farm-in (S2 diluting to 30%)

S2 has mineral rights covering approximately 462 square kilometres in the Central Lapland Greenstone Belt (CLGB) of Finland, a region that contains significant shear zone hosted gold deposits, such as Agnico Eagle's ~7.4Moz Kittilä gold mine and Rupert Resources recent 3.95Moz Ikkari discovery, and magmatic copper-nickel-PGE-gold deposits which include Boliden's 298Mt Kevitsa mine and Anglo American's world class 44Mt Sakatti deposit (see Figure 6).

S2's Aarnivalkea prospect has the potential to be another significant discovery in the region with approximately 1.3 kilometres of gold anomalism and high grade diamond drill intercepts such as 6.8m at 11.8g/t gold from 223m (hole FAVD0062) and 20.4m at 4.0g/t gold from 193m (hole FAVD0064).

S2 has active farm-in agreements with north American major gold producer Kinross Gold ("Kinross") (KGC.NYSE, K.TSX) and Canadian explorer Rupert Resources ("Rupert") (RUP.TSX). Under the terms the respective agreements, Kinross can earn a 70% interest in the Palvanen-Mesi block (58 square kilometres) by spending US\$6.5 million (approximately A\$9.3 million) and Rupert can spend up to €3.4 million (approximately A\$5.3 million) to earn a 70% interest in the Sikavaara East and Sikavaara West licences (37 square kilometres).

S2 continues to pursue a strategic rationalisation of its Finnish assets aimed at maximising their value via monetisation, maintaining exposure to future success via joint ventures and other corporate transactions, and minimising holding costs.

Both Kinross and Rupert have advised the intention to complete winter exploration programs, including diamond drilling, on the Palvanen-Mesi and Sikavaara East projects respectively.

ASX additional information

As per ASX Listing Rule 5.3.1: Exploration and Evaluation Expenditure during the Quarter was A\$1.2 million. Full details of exploration activity during the Quarter are set out in this report.

As per ASX Listing Rule 5.3.2: There were no substantive mining production and development activities during the Quarter.

This announcement has been provided to the ASX under the authorisation of the S2 Board.

For further information, please contact:

Mark Bennett
Executive Chairman
+61 8 6166 0240

Past Exploration results reported in this announcement have been previously prepared and disclosed by S2 Resources Ltd in accordance with JORC 2012. The Company confirms that it is not aware of any new information or data that materially affects the information included in these market announcements. The Company confirms that the form and content in which the Competent Person's findings are presented here have not been materially modified from the original market announcement. Refer to www.s2resources.com.au for details on past exploration results.

Competent Persons statements

Information in this report that relates to Exploration Results from Victoria is based on information compiled by Rohan Worland, who is an employee and equity holder of the Company. Mr Worland is a member of the Australian Institute of Geoscientists (AIG) and has sufficient experience of relevance to the style of mineralization and the types of deposits under consideration, and to the activities undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Worland consents to the inclusion in this report of the matters based on information in the form and context in which it appears.

Information in this report that relates to Exploration Results from Western Australia, New South Wales and Finland is based on information compiled by John Bartlett, who is an employee and equity holder of the Company. Mr Bartlett is a member of the Australian Institute of Mining and Metallurgy (MAusIMM) and has sufficient experience of relevance to the style of mineralization and the types of deposits under consideration, and to the activities undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Bartlett consents to the inclusion in this report of the matters based on information in the form and context in which it appears.

TENEMENT REGISTER

Project	Tenement ID	Registered Holder	Location	S2 Ownership %	Status
Western Australia					
Jillewarra	E 51/1602	Tanzi Pty Ltd	Mingah Range	earning 51%	Granted
Jillewarra	E 51/1603	Tanzi Pty Ltd	Mingah Range	earning 51%	Granted
Jillewarra	E 51/1604	Tanzi Pty Ltd	Mingah Range	earning 51%	Granted
Jillewarra	E 51/1617	Black Raven Mining Pty Ltd	Mingah Range	earning 51%	Granted
Jillewarra	E 51/1906	Black Raven Mining Pty Ltd	Mingah Range	earning 51%	Granted
Jillewarra	E 51/1915	Black Raven Mining Pty Ltd	Mingah Range	earning 51%	Granted
Jillewarra	E 51/1955	Black Raven Mining Pty Ltd	Mingah Range	earning 51% when granted	Pending
Jillewarra	E 51/1956	Black Raven Mining Pty Ltd	Mingah Range	earning 51% when granted	Pending

Jiliewarra	E 51/1965	Black Raven Mining Pty Ltd	Mingah Range	earning 51% when granted	Pending
Jiliewarra	E 51/1966	Black Raven Mining Pty Ltd	Mingah Range	earning 51% when granted	Pending
Jiliewarra	M 51/270	Tanzi Pty Ltd	Mingah Range	earning 51%	Granted
Jiliewarra	M 51/353	Tanzi Pty Ltd	Mingah Range	earning 51%	Granted
Jiliewarra	M 51/451	Tanzi Pty Ltd	Mingah Range	earning 51%	Granted
Jiliewarra	P 51/3082	Black Raven Mining Pty Ltd	Mingah Range	earning 51%	Granted
Jiliewarra	E 51/2050	Third Eye Exploration Pty Ltd	Mingah Range	earning 51%	Granted
Jiliewarra	E 51/2051	Third Eye Exploration Pty Ltd	Mingah Range	earning 51%	Granted
Jiliewarra	E 51/2052	Third Eye Exploration Pty Ltd	Mingah Range	earning 51%	Granted
Jiliewarra	E 51/2053	Third Eye Exploration Pty Ltd	Mingah Range	earning 51%	Granted
Jiliewarra	E 51/2054	Third Eye Exploration Pty Ltd	Mingah Range	earning 51%	Granted
Polar Bear	E15/1298	Polar Metals Pty Ltd	Lake Cowan	100% nickel	Granted
Polar Bear	E15/1461	Polar Metals Pty Ltd	Lake Cowan	100% nickel	Granted
Polar Bear	E15/1541	Polar Metals Pty Ltd	Lake Cowan	100% nickel	Granted
Polar Bear	E63/1142	Polar Metals Pty Ltd	Lake Cowan	100% nickel	Granted
Polar Bear	E63/1712	Polar Metals Pty Ltd	Lake Cowan	100% nickel	Granted
Polar Bear	E63/1725	Polar Metals Pty Ltd	Lake Cowan	100% nickel	Granted
Polar Bear	E63/1756	Polar Metals Pty Ltd	Lake Cowan	100% nickel	Granted
Polar Bear	M15/651	Polar Metals Pty Ltd	Lake Cowan	100% nickel	Granted
Polar Bear	M15/710	Polar Metals Pty Ltd	Lake Cowan	100% nickel	Granted
Polar Bear	M15/1814	Polar Metals Pty Ltd	Lake Cowan	100% nickel	Granted
Polar Bear	M63/230	Polar Metals Pty Ltd	Lake Cowan	100% nickel	Granted
Polar Bear	M63/255	Polar Metals Pty Ltd	Lake Cowan	100% nickel	Granted
Polar Bear	M63/269	Polar Metals Pty Ltd	Lake Cowan	100% nickel	Granted
Polar Bear	M63/279	Polar Metals Pty Ltd	Lake Cowan	100% nickel	Granted
Polar Bear	P15/5958	Polar Metals Pty Ltd	Lake Cowan	100% nickel	Granted
Polar Bear	P15/5959	Polar Metals Pty Ltd	Lake Cowan	100% nickel	Granted
Polar Bear	P63/1587	Polar Metals Pty Ltd	Lake Cowan	100% nickel	Granted
Polar Bear	P63/1588	Polar Metals Pty Ltd	Lake Cowan	100% nickel	Granted
Polar Bear	P63/1589	Polar Metals Pty Ltd	Lake Cowan	100% nickel	Granted
Polar Bear	P63/1590	Polar Metals Pty Ltd	Lake Cowan	100% nickel	Granted
Polar Bear	P63/1591	Polar Metals Pty Ltd	Lake Cowan	100% nickel	Granted
Polar Bear	P63/1592	Polar Metals Pty Ltd	Lake Cowan	100% nickel	Granted
Polar Bear	P63/1593	Polar Metals Pty Ltd	Lake Cowan	100% nickel	Granted
Polar Bear	P63/1594	Polar Metals Pty Ltd	Lake Cowan	100% nickel	Granted
Polar Bear	M63/662	Polar Metals Pty Ltd	Lake Cowan	100% nickel when granted	Application
Eundynie JV	E15/1458	Polar Metals Pty Ltd / Shumwari Pty Ltd	Lake Cowan	80% nickel	Granted
Eundynie JV	E15/1459	Polar Metals Pty Ltd / Shumwari Pty Ltd	Lake Cowan	80% nickel	Granted
Eundynie JV	E15/1464	Polar Metals Pty Ltd / Shumwari Pty Ltd	Lake Cowan	80% nickel	Granted
Eundynie JV	E63/1726	Polar Metals Pty Ltd / Shumwari Pty Ltd	Lake Cowan	80% nickel	Granted
Eundynie JV	E63/1727	Polar Metals Pty Ltd / Shumwari Pty Ltd	Lake Cowan	80% nickel	Granted
Eundynie JV	E63/1738	Polar Metals Pty Ltd / Shumwari Pty Ltd	Lake Cowan	80% nickel	Granted
Norcott	E15/1487	Polar Metals Pty Ltd	Mt Norcott	100% nickel	Granted
Norcott	E63/1728	Polar Metals Pty Ltd	Mt Norcott	100% nickel	Granted
Victoria					
Greater Fosterville	EL7795	Southern Star Pty Ltd	Fosterville	100% when granted	Application
New South Wales					

Koonenberry	EL 9574	Dark Star Exploration Pty Ltd	Koonenberry	100%	Granted
Koonenberry	EL 9575	Dark Star Exploration Pty Ltd	Koonenberry	100%	Granted
Koonenberry	EL 9576	Dark Star Exploration Pty Ltd	Koonenberry	100%	Granted
Warraweena	EL 9269	Oxley Resources Ltd	Darling Catchment	earning 70%	Granted
Warraweena	ELA 6691	Dark Star Exploration Pty Ltd	Darling Catchment	100% when granted	Application
Warraweena	ELA 6692	Dark Star Exploration Pty Ltd	Darling Catchment	100% when granted	Application
Finland					
<i>Exploration Licenses</i>					
Central Lapland	Paana Central ML2018:0081	Sakumpu Exploration Oy	Central Lapland	100%	Granted
Central Lapland	Paana W2 ML2018:0107	Sakumpu Exploration Oy	Central Lapland	100%	Granted
Central Lapland	Putaanperä ML2016:0063	Sakumpu Exploration Oy	Central Lapland	100% when granted	Application
Central Lapland	Paana West ML2017:0028	Sakumpu Exploration Oy	Central Lapland	100% when granted	Application
Central Lapland	Pahasvuoma ML2019:0085	Sakumpu Exploration Oy	Central Lapland	100% when granted	Application
Central Lapland	Rova ML2019:0086	Sakumpu Exploration Oy	Central Lapland	100% when granted	Application
Central Lapland	Paanapyytö ML2021:0058	Sakumpu Exploration Oy	Central Lapland	100% when granted	Application
Kinross JV	Palvanen ML2016:0062	Sakumpu Exploration Oy	Central Lapland	100% (Kinross earning 70%)	Granted
Kinross JV	Mesi ML2017:0034	Sakumpu Exploration Oy	Central Lapland	100% (Kinross earning 70%)	Granted
Kinross JV	Kehrävarsi ML2022:0064	KG Finland Exploration Oy	Central Lapland	100% (Kinross earning 70%)	Granted
Kinross JV	Kevuvuoma ML2022:0089	KG Finland Exploration Oy	Central Lapland	100% (Kinross earning 70%)	Granted
Central Lapland	Sikavaara E ML2016:0056	Sakumpu Exploration Oy	Central Lapland	100% (Rupert earning 70%)	Granted
Central Lapland	Sikavaara W ML2019:0107	Sakumpu Exploration Oy	Central Lapland	100% (Rupert earning 70%)	Granted

Appendix 5B

Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Name of entity

S2 Resources Ltd

ABN

18 606 128 090

Quarter ended ("current quarter")

31 December 2023

Consolidated statement of cash flows	Current quarter \$A'000	Year to date (6 months) \$A'000
1. Cash flows from operating activities		
1.1 Receipts from customers	-	-
1.2 Payments for		
(a) exploration & evaluation *	(1,533)	(2,370)
(b) development	-	-
(c) production	-	-
(d) staff costs**	(161)	(300)
(e) administration and corporate costs	(312)	(568)
1.3 Dividends received (see note 3)	-	-
1.4 Interest received	43	105
1.5 Interest and other costs of finance paid	(3)	(6)
1.6 Income taxes paid	-	-
1.7 Government grants and tax incentives	-	-
1.8 Other (provide details if material)	-	-
1.9 Net cash from / (used in) operating activities	(1,966)	(3,139)

*Exploration & evaluation comprise exploration physical costs of \$1,217k and pre-resource exploration staff costs of \$316k.

**Total staff costs for the quarter end was \$476k comprising pre-resource exploration \$316k, corporate 84k non-executive directors \$40k, business development \$36k. Staff costs of pre-resource exploration \$316k has been transferred to the above category 'exploration & evaluation'.

2. Cash flows from investing activities		
2.1 Payments to acquire or for:		
(a) entities	-	-
(b) tenements	-	-
(c) property, plant and equipment	(36)	(52)
(d) exploration & evaluation	(100)	(160)

Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (6 months) \$A'000
	(e) investments	-	-
	(f) other non-current assets	-	-
2.2	Proceeds from the disposal of:		
	(a) entities	-	-
	(b) tenements	36	36
	(c) property, plant and equipment	1	1
	(d) investments	-	-
	(e) other non-current assets	-	-
2.3	Cash flows from loans to other entities	-	-
2.4	Dividends received (see note 3)	-	-
2.5	Other	-	-
2.6	Net cash from / (used in) investing activities	(99)	(175)

3.	Cash flows from financing activities		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)	7,100	7,100
3.2	Proceeds from issue of convertible debt securities	-	-
3.3	Proceeds from exercise of options	-	-
3.4	Transaction costs related to issues of equity securities or convertible debt securities	(434)	(434)
3.5	Proceeds from borrowings	-	-
3.6	Repayment of borrowings	(23)	(51)
3.7	Transaction costs related to loans and borrowings	-	-
3.8	Dividends paid	-	-
3.9	Other (provide details if material)	7	(43)
3.10	Net cash from / (used in) financing activities	6,650	6,572

4.	Net increase / (decrease) in cash and cash equivalents for the period		
4.1	Cash and cash equivalents at beginning of period	4,440	5,767
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(1,966)	(3,139)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(99)	(175)

Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (6 months) \$A'000
4.4	Net cash from / (used in) financing activities (item 3.10 above)	6,650	6,572
4.5	Effect of movement in exchange rates on cash held	(7)	(7)
4.6	Cash and cash equivalents at end of period	9,018	9,018

5.	Reconciliation of cash and cash equivalents at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	Current quarter \$A'000	Previous quarter \$A'000
5.1	Bank balances	6,018	2,440
5.2	Call deposits	3,000	2,000
5.3	Bank overdrafts	-	-
5.4	Other (provide details)	-	-
5.5	Cash and cash equivalents at end of quarter (should equal item 4.6 above)	9,018	4,440

6.	Payments to related parties of the entity and their associates	Current quarter \$A'000
6.1	Aggregate amount of payments to related parties and their associates included in item 1	126
6.2	Aggregate amount of payments to related parties and their associates included in item 2	-
Salaries and fees paid to directors in the quarter including superannuation.		
<i>Note: if any amounts are shown in items 6.1 or 6.2, your quarterly activity report must include a description of, and an explanation for, such payments.</i>		

Mining exploration entity or oil and gas exploration entity quarterly cash flow report

7. Financing facilities	Total facility amount at quarter end \$A'000	Amount drawn at quarter end \$A'000
<i>Note: the term "facility" includes all forms of financing arrangements available to the entity. Add notes as necessary for an understanding of the sources of finance available to the entity.</i>		
7.1 Loan facilities	-	-
7.2 Credit standby arrangements	-	-
7.3 Other (please specify)	-	-
7.4 Total financing facilities	-	-
7.5 Unused financing facilities available at quarter end		-
7.6 Include in the box below a description of each facility above, including the lender, interest rate, maturity date and whether it is secured or unsecured. If any additional financing facilities have been entered into or are proposed to be entered into after quarter end, include a note providing details of those facilities as well.		

8. Estimated cash available for future operating activities	\$A'000
8.1 Net cash from / (used in) operating activities (item 1.9)	(1,966)
8.2 (Payments for exploration & evaluation classified as investing activities) (item 2.1(d))	-
8.3 Total relevant outgoings (item 8.1 + item 8.2)	(1,966)
8.4 Cash and cash equivalents at quarter end (item 4.6)	9,018
8.5 Unused finance facilities available at quarter end (item 7.5)	-
8.6 Total available funding (item 8.4 + item 8.5)	9,018
8.7 Estimated quarters of funding available (item 8.6 divided by item 8.3)	4.59
<i>Note: if the entity has reported positive relevant outgoings (ie a net cash inflow) in item 8.3, answer item 8.7 as "N/A". Otherwise, a figure for the estimated quarters of funding available must be included in item 8.7.</i>	
8.8 If item 8.7 is less than 2 quarters, please provide answers to the following questions:	
8.8.1 Does the entity expect that it will continue to have the current level of net operating cash flows for the time being and, if not, why not?	
Answer:	
8.8.2 Has the entity taken any steps, or does it propose to take any steps, to raise further cash to fund its operations and, if so, what are those steps and how likely does it believe that they will be successful?	
Answer:	

Mining exploration entity or oil and gas exploration entity quarterly cash flow report

8.8.3 Does the entity expect to be able to continue its operations and to meet its business objectives and, if so, on what basis?

Answer:

Note: where item 8.7 is less than 2 quarters, all of questions 8.8.1, 8.8.2 and 8.8.3 above must be answered.

Compliance statement

- 1 This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.
- 2 This statement gives a true and fair view of the matters disclosed.

Date: 30 January 2024.....

Authorised by: The Board.....
(Name of body or officer authorising release – see note 4)

Notes

1. This quarterly cash flow report and the accompanying activity report provide a basis for informing the market about the entity's activities for the past quarter, how they have been financed and the effect this has had on its cash position. An entity that wishes to disclose additional information over and above the minimum required under the Listing Rules is encouraged to do so.
2. If this quarterly cash flow report has been prepared in accordance with Australian Accounting Standards, the definitions in, and provisions of, *AASB 6: Exploration for and Evaluation of Mineral Resources* and *AASB 107: Statement of Cash Flows* apply to this report. If this quarterly cash flow report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standards apply to this report.
3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.
4. If this report has been authorised for release to the market by your board of directors, you can insert here: "By the board". If it has been authorised for release to the market by a committee of your board of directors, you can insert here: "By the [name of board committee – eg Audit and Risk Committee]". If it has been authorised for release to the market by a disclosure committee, you can insert here: "By the Disclosure Committee".
5. If this report has been authorised for release to the market by your board of directors and you wish to hold yourself out as complying with recommendation 4.2 of the ASX Corporate Governance Council's *Corporate Governance Principles and Recommendations*, the board should have received a declaration from its CEO and CFO that, in their opinion, the financial records of the entity have been properly maintained, that this report complies with the appropriate accounting standards and gives a true and fair view of the cash flows of the entity, and that their opinion has been formed on the basis of a sound system of risk management and internal control which is operating effectively.