



## DECEMBER 2020 QUARTERLY ACTIVITIES REPORT

### Key points

- High grade gold intercepted in deeper drilling at Aarnivalkea, Finland, with 6.85 metres @ 11.8g/t gold in FAVD0062 and 20.4 metres @ 2.3g/t gold in hole FAVD0064, including 8.0 metres @ 4.8g/t gold
- These intercepts are located 575m apart at depths of 160-175m metres, with no drilling deeper than 120 metres in-between
- Executed a farm-in agreement to earn up to 70% of the Jillewarra gold and bases project, Western Australia. RC drilling to commence in the March quarter.
- First phase of Jillewarra drilling to target depth extensions to known mineralisation at the Dorothy and Margueritta prospects below historic high grade gold intercepts including 3m @ 40.9g/t gold and 8m @ 9.2g/t gold
- Good financial position with A\$10.6 million cash at quarter's end, plus a A\$4.4 million position in Todd River Resources (ASX:TRT)

### CORPORATE

#### Finance

A total of A\$1.67 million was spent during the quarter on operating activities, comprising A\$1.18 million exploration and evaluation costs, A\$0.14 million staff costs and A\$0.36 million corporate costs, business development costs, overheads and payments for fixed assets. At the end of the December quarter cash totaled A\$10.63 million.

The Company reported aggregate amount payments to related parties totaling \$136,000. These payments related to salaries and fees paid to directors in the quarter including superannuation.

Planned expenditure for the next quarter ended 31 March 2021 is anticipated to be approximately A\$1.73 million, primarily comprising drilling on Jillewarra gold prospects in Western Australia and geophysics and base of till (BoT) drilling at the Ruopas base metals project in Finland.

## Capital structure

The total issued capital as at 31 December 2020 comprised 314,891,179 ordinary shares and 40.3 million unlisted options, which if exercised, would represent a capital injection of A\$11.8 million to the Company.

In October 2020, 5,000,000 shares were issued at 26 cents per share pursuant to the Jillewarra project earn-in and 2,000,000 options were issued at 0.39 cents to incoming Chief Executive Officer, Matthew Keane.

In November 2020, 7,350,000 options were issued at 0.38 cents in relation to director, employee and service provider share option plans. At total of 10,850,000 options lapsed during the quarter.

## EXPLORATION

### Jillewarra gold and copper-zinc-lead project, Western Australia (S2 earning 70%)

*S2 is earning a majority interest in the Jillewarra project which covers 790 square kilometres of gold and copper-zinc-lead prospective greenstones situated approximately 50 kilometres west of Meekatharra in the Murchison Goldfields of Western Australia (Figure 1).*

In October 2020, S2 entered into a binding agreement with private company Black Raven Mining Pty Ltd ("BRM") to earn a majority interest in a group of tenements known as the Jillewarra project (see S2 ASX announcement dated 5<sup>th</sup> October 2020). The farm-in comprises an up-front non-cash consideration, an earn-in phase, and a potential free carry, as summarised below:

- Issue of 5 million S2 shares to BRM at A\$0.26, representing a consideration of A\$1.3m (issued 5<sup>th</sup> October 2020)
- Minimum expenditure of A\$2m within 2 years
- Cumulative expenditure of A\$5m within 5 years to earn a 51% interest
- Completion of a study on Inferred Mineral Resources of at least 250,000 ounces of gold (or base metal equivalent) within 7 years to earn a 70% interest
- On completion of this study by S2, BRM can elect to contribute, dilute, or revert to a free carried interest ("FCI") to commencement of commercial production
- In the event of BRM opting for a FCI, BRM's interest reduces to 25% and S2's interest increases to 75%, and BRM repays its free carry from 100% of its share of revenue
- In the event of S2 not completing a study within 7 years, S2's interest decreases to 49%

Jillewarra is considered prospective for both gold and volcanogenic massive sulfide (VMS) style base metals. Historic gold workings are present along several trends and limited drilling has intercepted several zones of shallow high-grade mineralisation. Despite the significant prospectivity, most drilling to date has been limited to within 70 metres of ground surface.

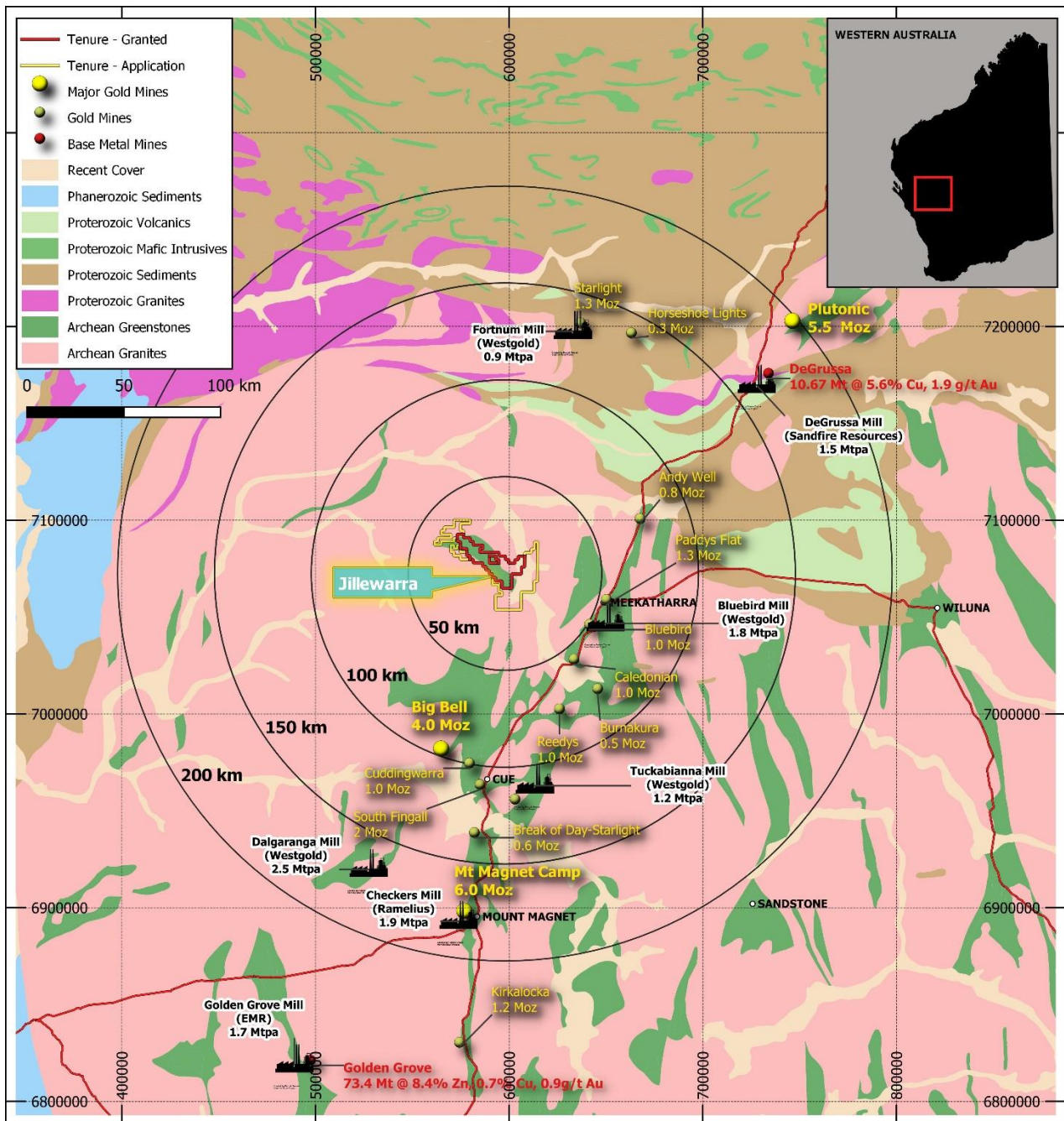


Figure 1: Setting of the Jillewarra project, showing district scale gold and base metal endowment.

During the December quarter, S2 completed heritage surveys over initial exploration target areas. Reverse circulation (RC) drilling is planned to commence in the March quarter at the Dorothy and Margueritta prospects. The first stage of drilling will test extensions to known mineralisation down dip, along strike and along parallel trends (refer to S2 ASX announcement dated 2<sup>nd</sup> December 2020).

The Dorothy prospect is hosted by narrow sulphide-rich quartz veins dipping moderately to the southwest within a southerly plunging shoot (Figure 2). Effective drill testing of this prospect has been limited to predominantly RC drilling around historical workings, with better results including:

- 3 metres @ 40.9 g/t gold from 29 metres in DO018
- 4 metres @ 33.8 g/t gold from 33 metres in CHER16
- 4 metres @ 33.3 g/t gold from 35 metres in CFC044
- 9 metres @ 21.0 g/t gold from 45 metres in CFC058
- 8 metres @ 9.2 g/t gold from 57 metres in CFC057, and
- 1.8 metres @ 69.2 g/t gold from 73.3 metres in CHERD30 (\*diamond hole)

The Margueritta prospect is located approximately 1.5 kilometres southeast of Dorothy along the same structural corridor. Gold mineralisation at Margueritta occurs within two sub parallel horizons, dipping moderately to the northeast and plunging shallowly to the north (Figure 3). Better results from historical RC drilling of the East Lode include:

- 5 metres @ 6.1 g/t gold from 22 metres in RC002
- 4 metres @ 5.8 g/t gold from 32 metres in CFC008
- 3 metres @ 6.1 g/t gold from 21 metres in CFC007
- 2 metres @ 5.6 g/t gold from 35 metres in CFC050

Better results from historical RC drilling of the West Lode include:

- 5 metres @ 5.9 g/t gold from 38 metres in CHERC5
- 3 metres @ 7.2 g/t gold from 49 metres in RC004

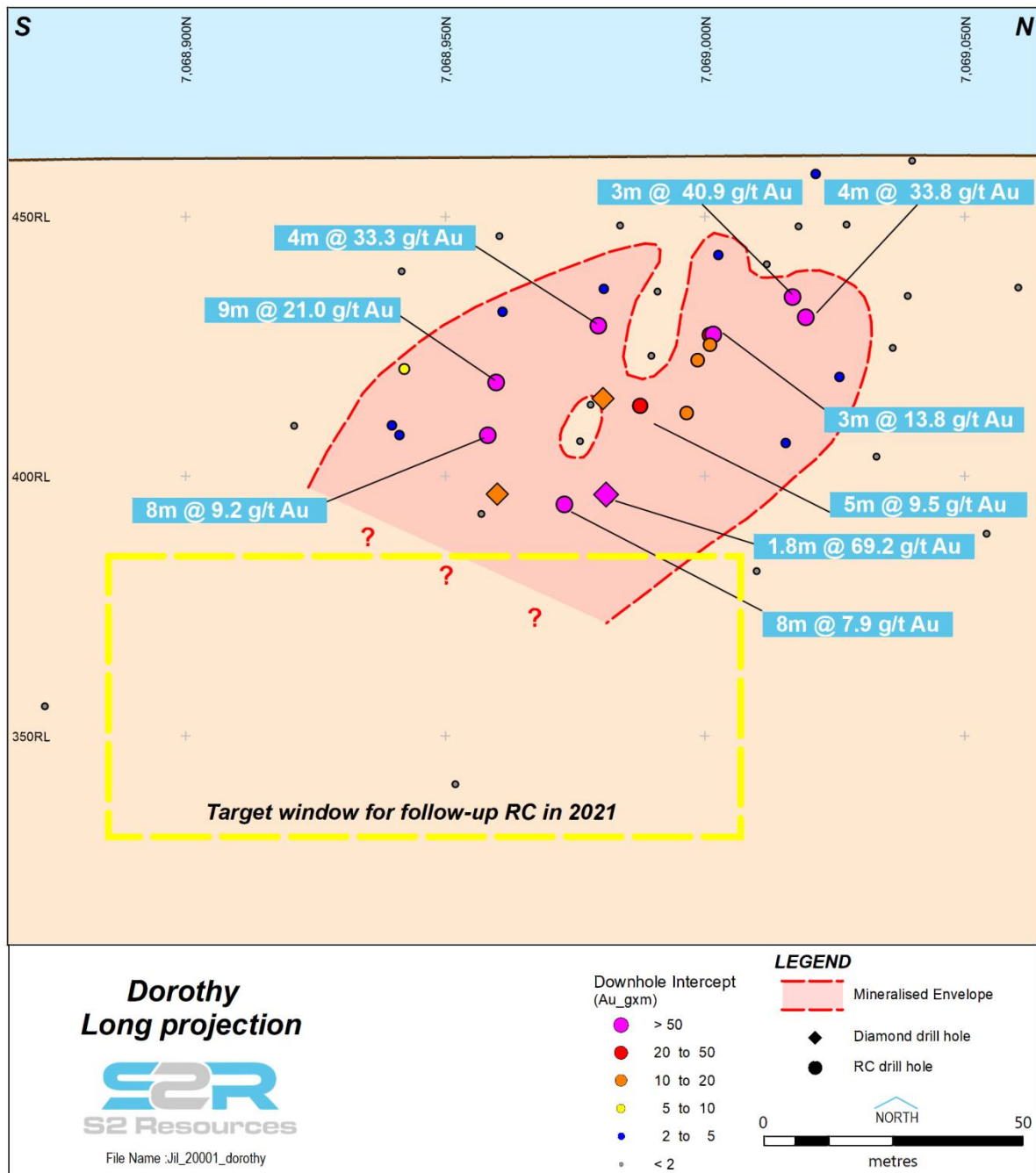


Figure 2: Long projection of the Dorothy prospect showing historic drilling and the planned target area for upcoming RC drilling



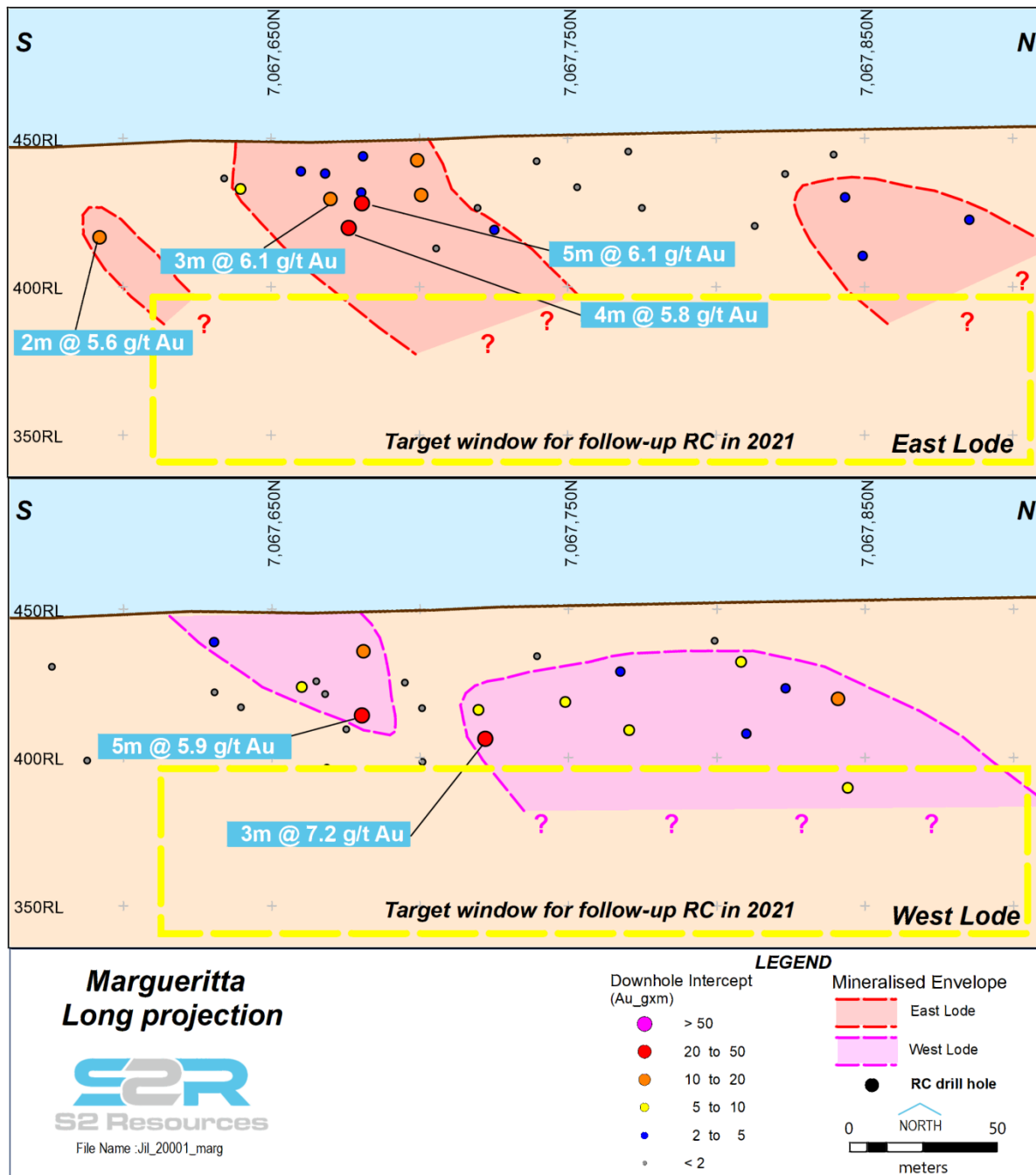


Figure 3: Long projections of the Margueritta prospect showing historic drilling and the planned target areas for upcoming RC drilling

## **Central Lapland Greenstone Belt, Finland (100% S2)**

*S2 has mineral rights covering approximately 596 square kilometres of ground in the Central Lapland Greenstone Belt (CLGB) of Finland, a region that contains significant shear zone hosted gold deposits, such as Agnico Eagle's 8Moz Kittilä gold mine, and magmatic copper-nickel-PGM deposits, which include Boliden's Kevitsa mine and Anglo American's world class Sakatti deposit.*

### **Finland Gold**

In 2019, S2 discovered the mineralised gold trend at Aarnivalkea beneath shallow glacial cover in a previously unexplored area (see Figure 4, refer to previous S2 ASX announcement on 1 May 2019). The discovery followed a systematic regional targeting approach comprising sequential ionic leach geochemistry, structural interpretation of geophysics, and base of till (BOT) drilling. Follow-up broad spaced shallow reconnaissance diamond drilling defined a broad zone of basement mineralisation over a +1,200 metre strike extent.

In October 2020, the Company drilled four very widely spaced diamond holes to test for a range of possible down-dip and down-plunge extensions to the gold mineralisation defined in the earlier shallow drilling (Figure 5). All four holes intercepted anomalous gold mineralisation (refer to S2 ASX announcements dated 8<sup>th</sup> December 2020 and 4<sup>th</sup> January 2021). Better intercepts included (downhole depths):

- 6.85 metres at 11.8g/t gold from 223.0 metres, including 4.0 metres at 18.1g/t from 223.0 metres in hole FAVD0062 (Figure 6)
- 20.40 metres at 2.3g/t gold from 193.1 metres, including 8.0 metres at 4.8g/t from 198.0 metres in hole FAVD0064 (Figure 7)
- 5.96 metres at 1.1g/t gold from 245.6 metres in hole FAVD0061
- 1.20 metres at 3.6g/t gold from 211.8 metres in hole FAVD0062
- 2.60 metres at 1.0g/t gold from 343.7 metres in hole FAVD0062
- 3.50 metres at 0.9g/t gold from 259.0 metres in hole FAVD0063

Holes FAVD0062 and FAVD0064 were the first deep holes drilled under the main trend of gold mineralisation identified in previous scout diamond drilling. Both holes returned high grade intercepts. These two holes are some 575m apart with no other holes drilled below 120m in-between (Figure 8).

Follow up diamond drilling is also being planned at Aarnivalkea. The timing of this drilling will be dependent on diamond rig availability, which is currently constrained due to heightened exploration interest in the CLGB and peak seasonal demand (drilling is most active in the winter months due to ground freezing).

### **Finland Base metals**

Post quarter end, S2 commenced ground EM surveys and base of till (BoT) drilling at the Ruopas Pahtapuura exploration permit (see Figure 4) This area is prospective for magmatic intrusive style nickel-copper-platinum group element (PGE) mineralisation.

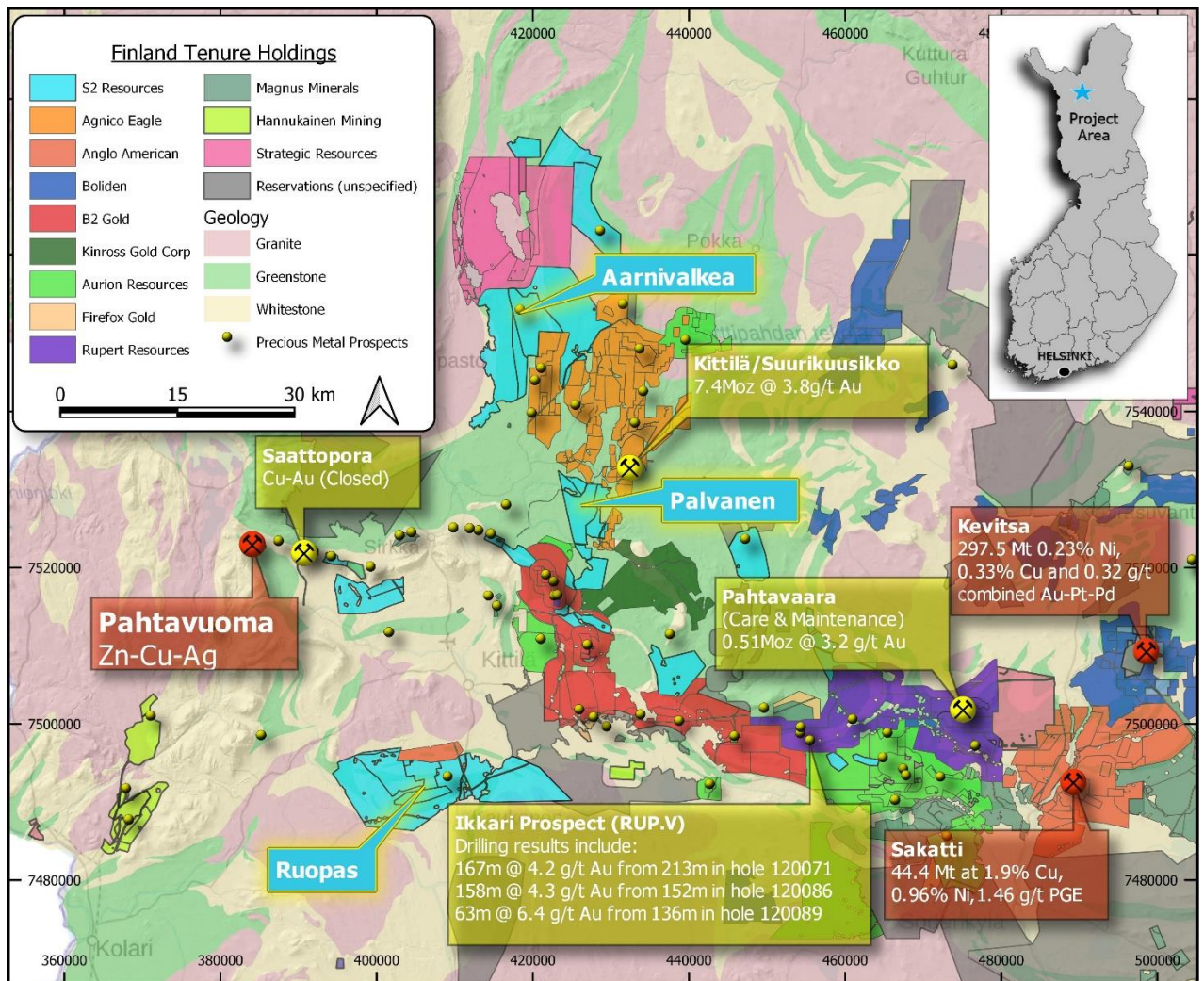


Figure 4. Aarnivalkea prospect location map showing S2's landholding in Lapland, Finland, including neighbouring companies, mines, defined resources and recent drill intercepts. Resources and drill intercepts are sourced from public company statements.



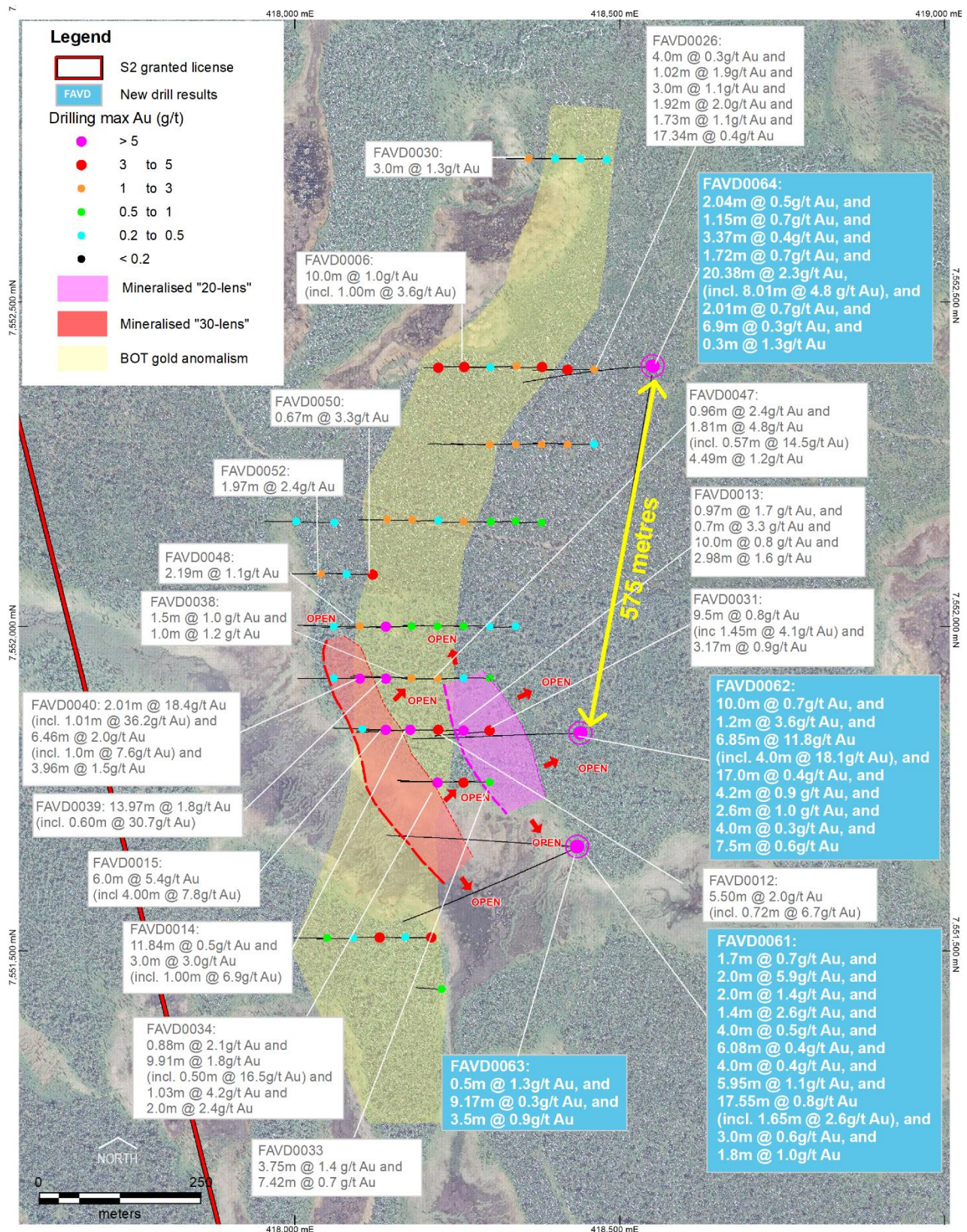


Figure 5. Plan projection of drilling at Aarnivalkea, showing the location of recent diamond drillholes (blue), key section lines and the northwest striking BOT gold mineralised zone (yellow shading), including higher grade lenses (red and magenta shading).



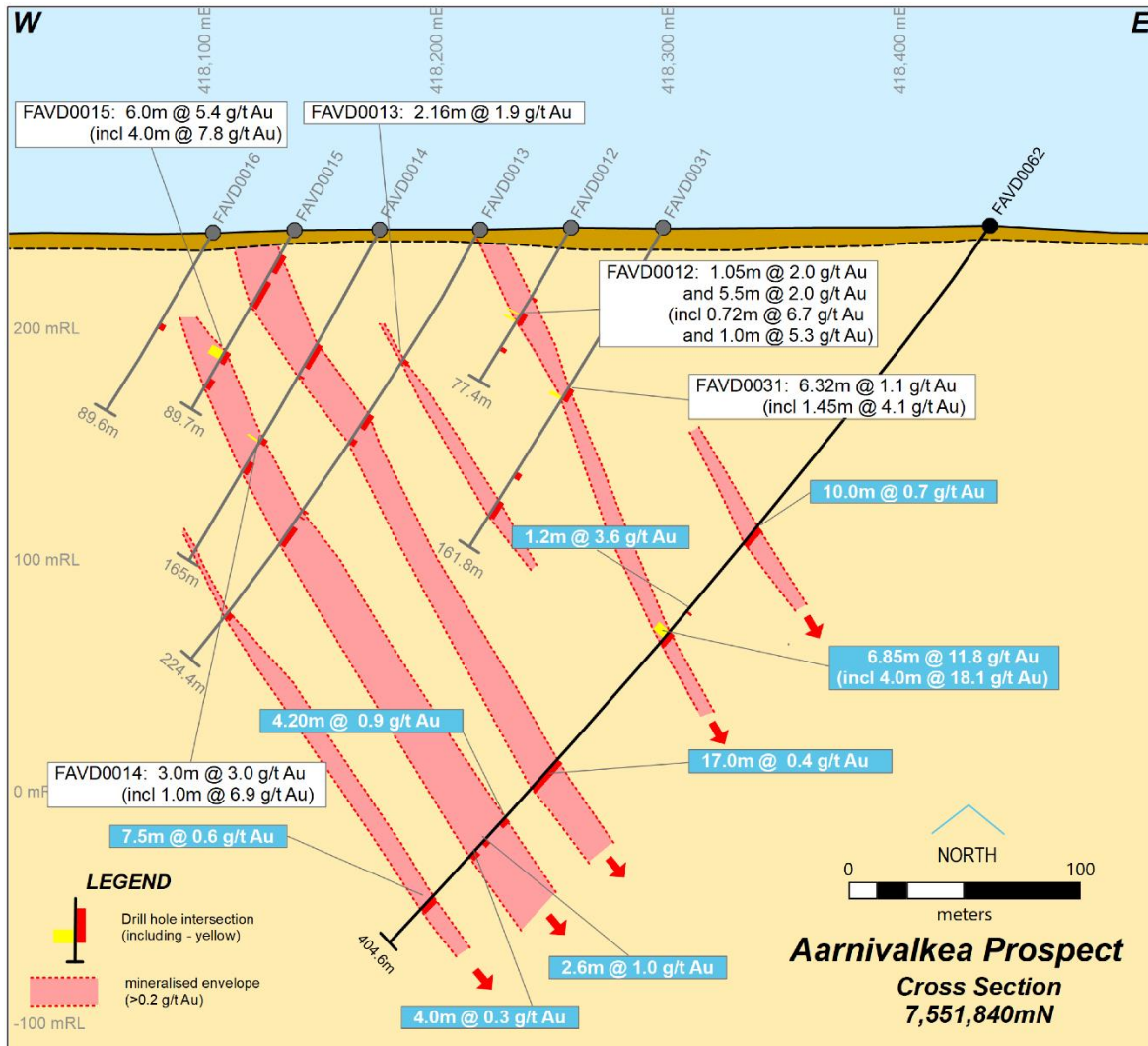


Figure 6. Cross section through section line 7,551,840mN showing drill hole FAVD0062.

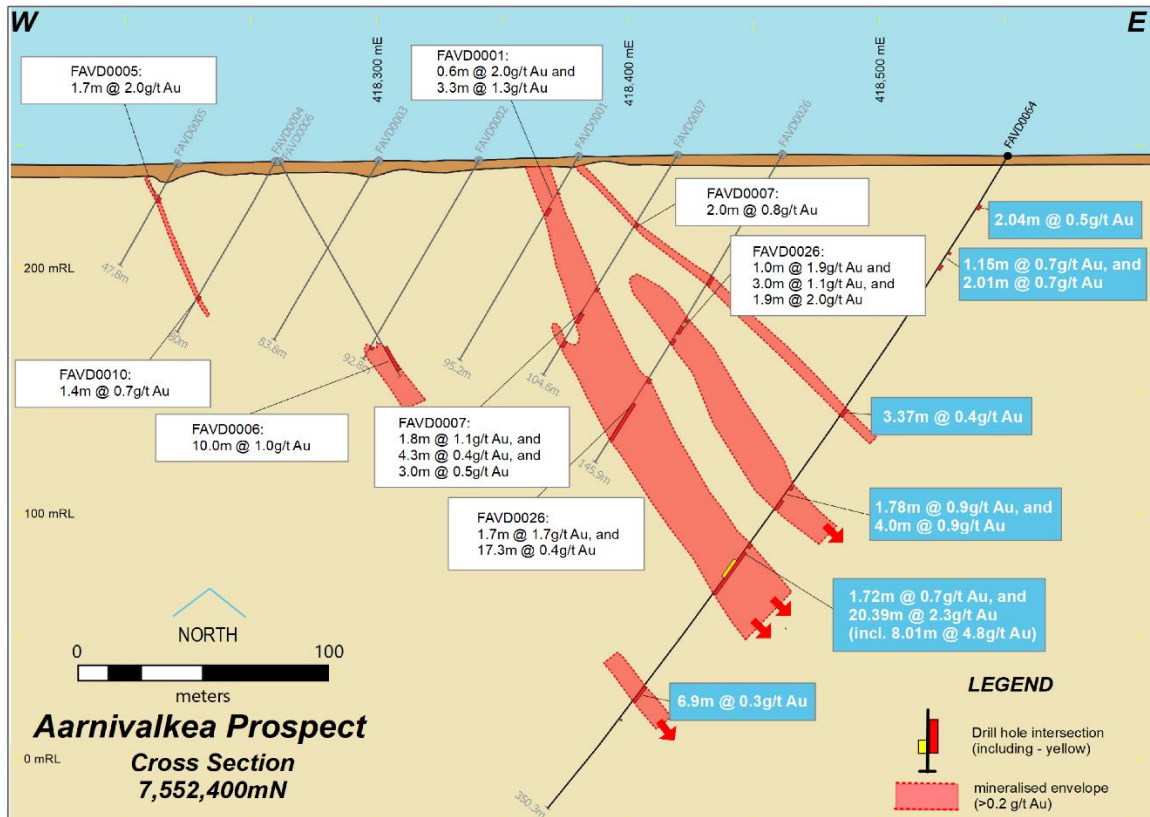


Figure 7. Cross section through section line 7,552,400mN showing drill hole FAVD0064.

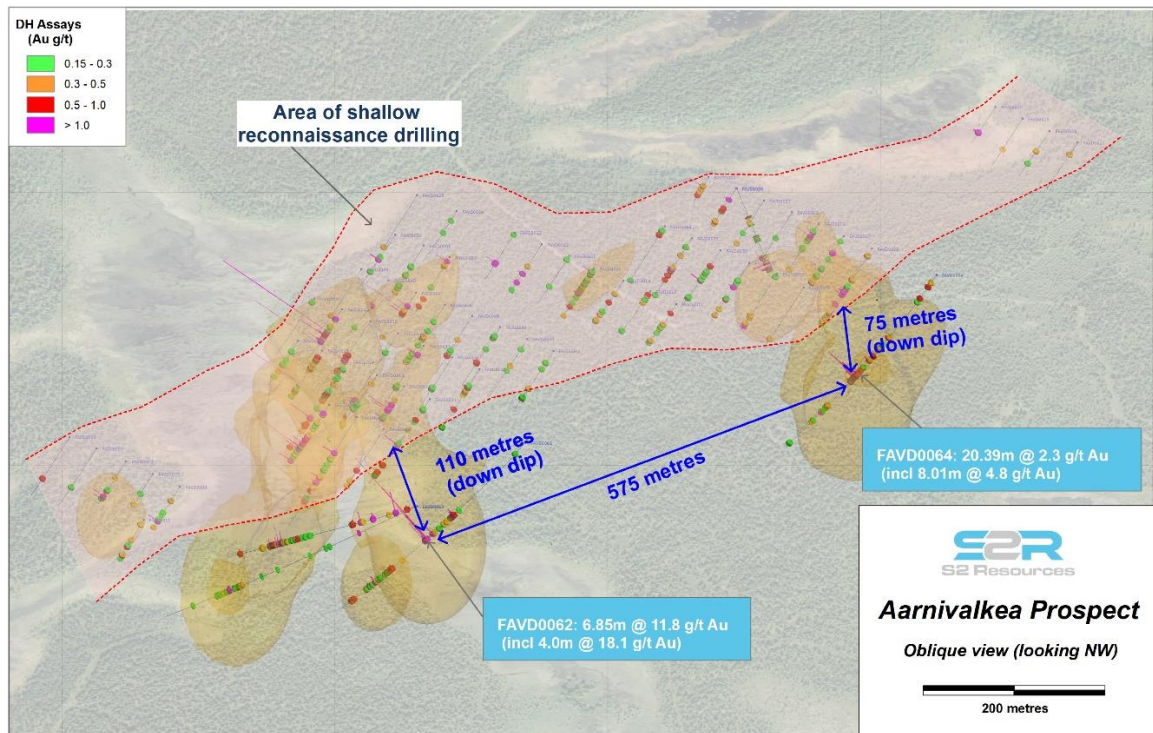


Figure 8. Isometric view showing drilling to date at Aarnivalkea, highlighting the lack of deeper drilling between, below, and north of holes FAVD0062 and FAVD0064.



## Fraser Range nickel project, Western Australia (S2 100%)

The Company has three exploration licences covering 242 square kilometres of the Fraser Range nickel province. The licences are located 40 to 80 kilometres to the northeast of the Nova-Bollinger nickel-copper mine (discovered by S2's predecessor, Sirius Resources in 2012).

During the quarter, S2 drilled two diamond holes into EM conductors targeting magmatic nickel-copper mineralisation (Figure 9). Hole SAFD001 on exploration licence E28/2792 intercepted 1.2 metres of semi-massive to massive net-textured iron sulphides. Hole SAFD002 on exploration licence E28/2791 intercepted 6.5 metres of semi-massive and net textured sulphides (predominantly iron sulphide with minor copper sulphide). The downhole depth of both sulphide intercepts were coincident with both EM targets and are therefore interpreted to be the main sources of conductance. Handheld XRF did not detect significant nickel sulphides in either hole (refer to S2 ASX announcements dated 7<sup>th</sup> and 14<sup>th</sup> of December). The mineralised intervals from holes FAVD001 and FAVD002 have been submitted for base metal and PGE assays and downhole EM (DHEM) will be undertaken in the coming weeks to test for any off-hole anomalies.

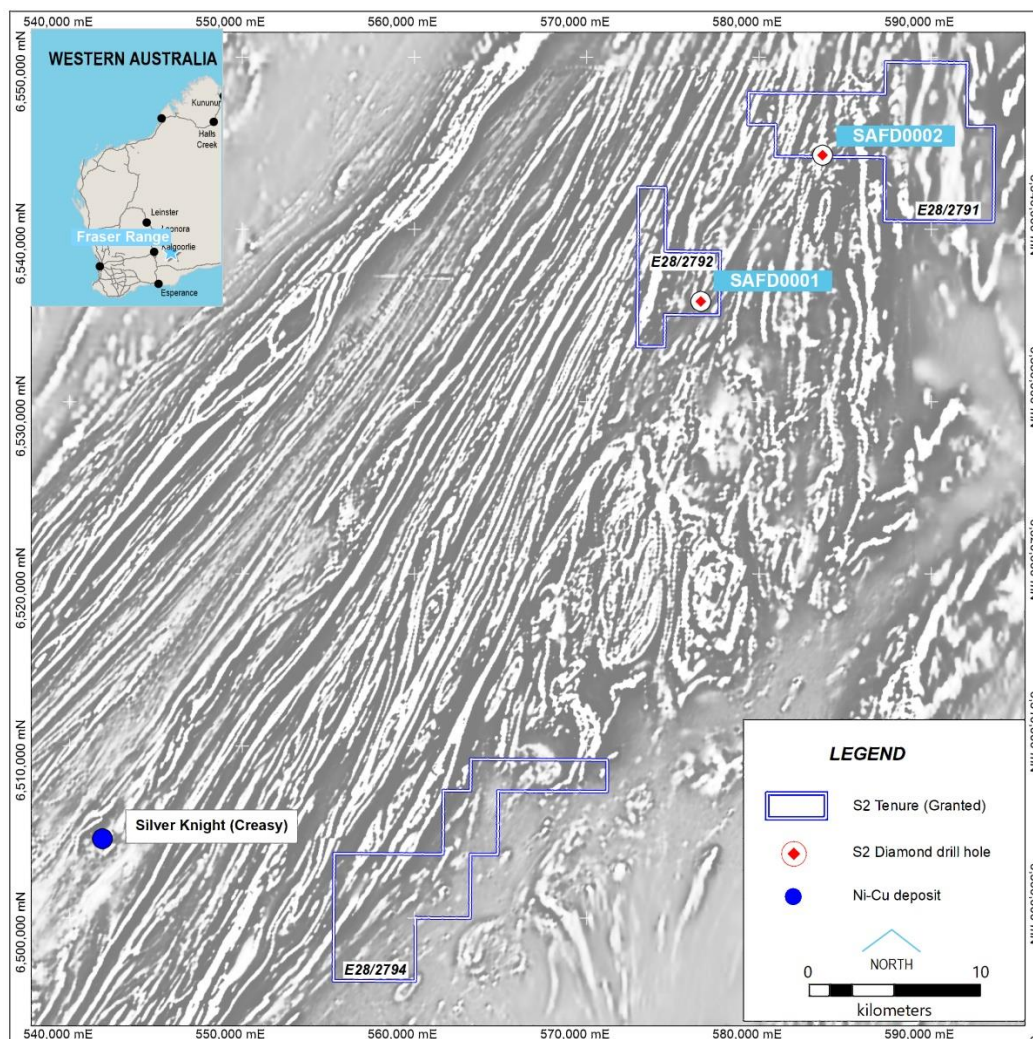


Figure 9. Fraser Range diamond drill hole locations



**West Murchison nickel-copper-PGE target, Western Australia (S2 100%)**

*S2 has three Exploration Licence applications covering 880 square kilometres over several targets interpreted to represent mafic-ultramafic intrusions prospective for magmatic nickel-copper-PGE mineralisation.*

Initial soil samples collected earlier in 2020 highlighted anomalous nickel and copper in soil over ultramafic basement geology. No field activities were undertaken during the December quarter. Pending the grant of Exploration Licenses, ground EM and further soil geochemistry will commence in 2021.

**Three Springs nickel-copper-PGE target, Western Australia (S2 100%)**

*S2 has two Exploration Licenses covering approximately 478 square kilometres over several targets interpreted to represent mafic-ultramafic intrusions prospective for magmatic nickel-copper-PGE mineralisation.*

S2 commenced landholder assess negotiations during the quarter with an aim to commence field works in the first half of 2021. The Company is planning an auger geochemical program and ground EM. The timing of these programs is aimed at working in with local farming cycles.

**Polar Bear nickel project, Western Australia (S2 100% nickel rights)**

*S2's holds the nickel rights over an area of 510 square kilometres to the southeast of the Widgiemooltha and Kambalda nickel sulphide trends. 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 RNC). The nickel rights include the Halls Knoll, Taipan and Gwardar nickel prospects.*

No activity this quarter.

**Berkshire Ni-Cu-PGE project, Western Australia (via 15.5% shareholding in Todd River resources)**

*S2 is exposed to the Berkshire nickel-copper-PGE project via its shareholding in Todd River Resources (ASX:TRT). The Berkshire project contains a number of mafic-ultramafic intrusions analogous to the Gonneville intrusion which hosts Chalice Gold's Julimar nickel-copper-PGE discovery.*

During the quarter, Todd River Resources (ASX: TRT) commenced a detailed moving loop electromagnetic survey (MLTEM) over the prospective mafic and ultramafic intrusions at its 100% owned Berkshire Valley nickel-copper-PGE project in Western Australia. The survey is designed to cover the initial six kilometres of the Western Mafic/Ultramafic Trend which contains elevated PGE's in soil geochemistry (see Figure 10 below, refer to TRT ASX announcement dated 14<sup>th</sup> December 2020).

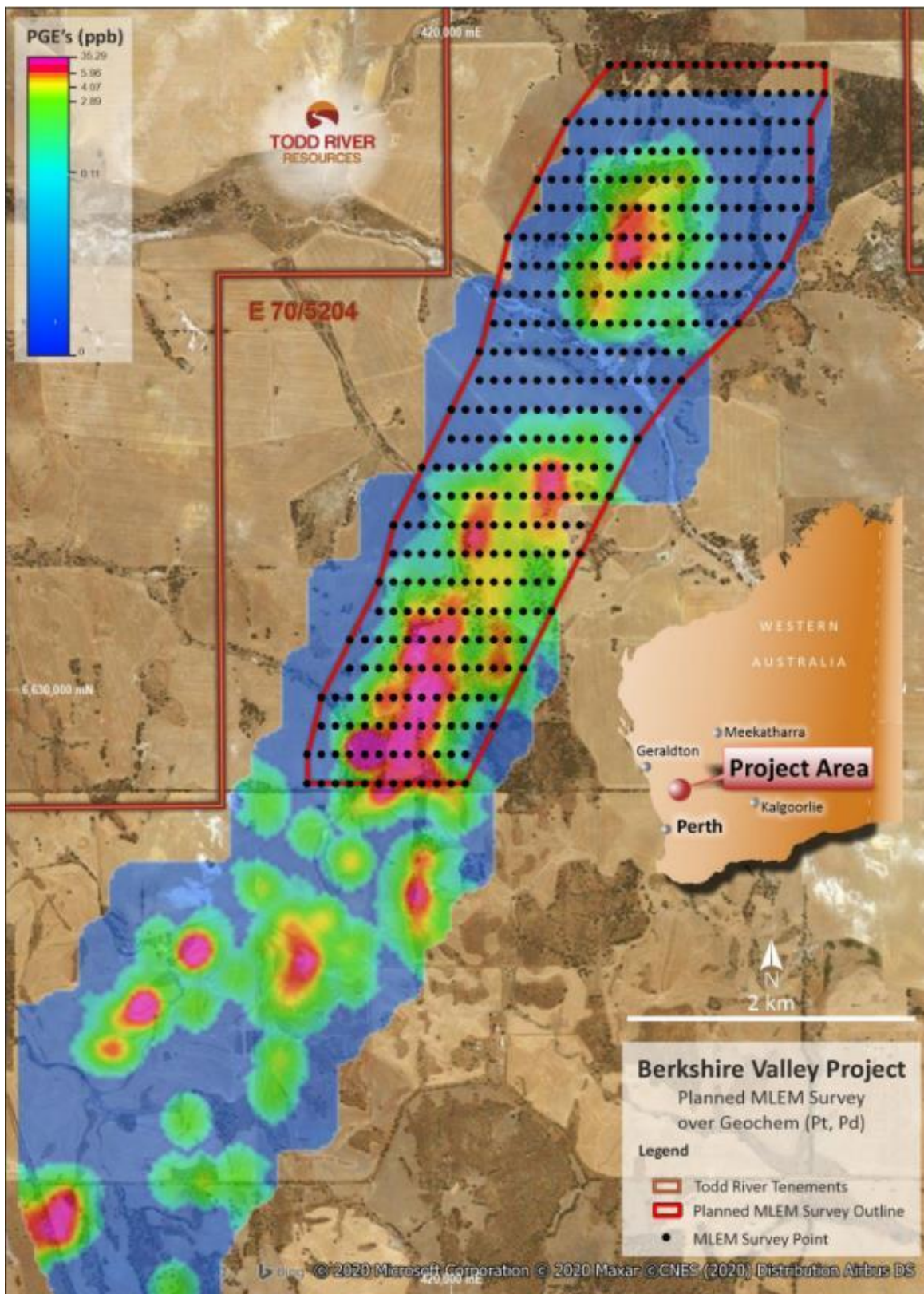


Figure 10. Location of the moving loop survey over Pt+Pd auger geochemical results (source: TRT)

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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](http://www.s2resources.com.au) for details on past exploration results.

Project	Tenement ID	Registered Holder	Location	Ownership %	Status
<b>Western Australia</b>					
Fraser Range	E28/2791	Southern Star Pty Ltd	Fraser Range	100%	Granted
Fraser Range	E28/2792	Southern Star Pty Ltd	Fraser Range	100%	Granted
Fraser Range	E28/2793	Southern Star Pty Ltd	Fraser Range	100% when granted – subject to ballot	Application
Fraser Range	E28/2794	Southern Star Pty Ltd	Fraser Range	100%	Granted
Jillewarra	E51/1602	Tanzi Pty Ltd	Jillewarra	earning 51%	Granted
Jillewarra	E51/1603	Tanzi Pty Ltd	Jillewarra	earning 51%	Granted
Jillewarra	E51/1604	Tanzi Pty Ltd	Jillewarra	earning 51%	Granted
Jillewarra	E51/1617	Black Raven Mining Pty Ltd	Jillewarra	earning 51%	Granted
Jillewarra	E51/1906	Black Raven Mining Pty Ltd	Jillewarra	earning 51%	Granted
Jillewarra	E51/1915	Black Raven Mining Pty Ltd	Jillewarra	earning 51%	Granted
Jillewarra	E51/1955	Black Raven Mining Pty Ltd	Jillewarra	earning 51% when granted	Application
Jillewarra	E51/1956	Black Raven Mining Pty Ltd	Jillewarra	earning 51% when granted	Application
Jillewarra	E51/1965	Black Raven Mining Pty Ltd	Jillewarra	earning 51% when granted	Application
Jillewarra	E51/1966	Black Raven Mining Pty Ltd	Jillewarra	earning 51% when granted	Application
Jillewarra	M51/270	Tanzi Pty Ltd	Jillewarra	earning 51%	Granted
Jillewarra	M51/353	Tanzi Pty Ltd	Jillewarra	earning 51%	Granted
Jillewarra	M51/451	Tanzi Pty Ltd	Jillewarra	earning 51%	Granted
Jillewarra	P51/3082	Black Raven Mining Pty Ltd	Jillewarra	earning 51%	Granted
Jillewarra	M51/885	Wood, Sandra	Jillewarra	earning 51% when granted	Application
Jillewarra	P51/2696	Wood, Sandra	Jillewarra	earning 51%	Granted
Jillewarra	P51/2950	King, Trent Nathan	Jillewarra	earning 51%	Granted
Three Springs	E70/5380	Southern Star Pty Ltd	Three Springs	100%	Granted
Three Springs	E70/5381	Southern Star Pty Ltd	Three Springs	100%	Granted
West Murchison	E70/5382	Southern Star Pty Ltd	West Murchison	100% when granted	Application
West Murchison	E09/2390	Southern Star Pty Ltd	West Murchison	100% when granted	Application
West Murchison	E09/2391	Southern Star Pty Ltd	West Murchison	100% when granted	Application
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	E63/1757	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	M63/662	Polar Metals Pty Ltd	Lake Cowan	100% nickel when granted	Application
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

Project	Tenement ID	Registered Holder	Location	Ownership %	Status
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
<b>Finland</b>					
<i>Exploration Licenses</i>					
Central Lapland	Keulakkopää ML2016:0058	Sakumpu Exploration Oy	Central Lapland	100%	Granted
Central Lapland	Paana Central ML2018:0081	Sakumpu Exploration Oy	Central Lapland	100%	Granted
Central Lapland	Aakenusvaara ML2018:0105	Sakumpu Exploration Oy	Central Lapland	100%	Granted
Central Lapland	Paana W2 ML2018:0107	Sakumpu Exploration Oy	Central Lapland	100%	Granted
Central Lapland	Kerjonen ML2015:0061	Sakumpu Exploration Oy	Central Lapland	100%	Granted
Central Lapland	Palvanen ML2016:0062	Sakumpu Exploration Oy	Central Lapland	100%	Granted
Central Lapland	Ruopas Pahtapuura ML2017:0040	Sakumpu Exploration Oy	Central Lapland	100%	Granted
Central Lapland	Putaanperä ML2016:0063	Sakumpu Exploration Oy	Central Lapland	100% when granted	Application
Central Lapland	Sikavaara E ML2016:0056	Sakumpu Exploration Oy	Central Lapland	100% when granted	Application
Central Lapland	Paana East ML2017:0029	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	Selkä ML2017:0037	Sakumpu Exploration Oy	Central Lapland	100% when granted	Application
Central Lapland	Mesi ML2017:0034	Sakumpu Exploration Oy	Central Lapland	100% when granted	Application
Central Lapland	Ruopas Pahtapuura 1 ML2020:0041	Sakumpu Exploration Oy	Central Lapland	100% when granted	Application
Central Lapland	Ruopas Ollerokka ML2020:0042	Sakumpu Exploration Oy	Central Lapland	100% when granted	Application
Central Lapland	Ruopas ML2020:0043	Sakumpu Exploration Oy	Central Lapland	100% when granted	Application
Central Lapland	Nuttio ML2017:0041	Sakumpu Exploration Oy	Central Lapland	100% when granted	Application
Central Lapland	Home ML2017:0042	Sakumpu Exploration Oy	Central Lapland	100% when granted	Application
Central Lapland	Hanhijarvi ML2017:0112	Sakumpu Exploration Oy	Central Lapland	100% when granted	Application
Central Lapland	Pikkulaki ML2017:0111	Sakumpu Exploration Oy	Central Lapland	100% when granted	Application
Central Lapland	Ruopas 1 ML2018:0065	Sakumpu Exploration Oy	Central Lapland	100% when granted	Application
Central Lapland	Home 1 ML2018:0109	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	Sikavaara W ML2019:0107	Sakumpu Exploration Oy	Central Lapland	100% when granted	Application