# **ASX Announcement**

Tuesday 8th October 2019





## FINLAND EXPLORATION UPDATE

S2 Resources Ltd ("S2" or the "Company") advises that ongoing drilling has intersected further gold mineralisation 80 metres northeast of the previously announced zone at its 100% owned Aarnivalkea gold prospect. Assay results are also awaited for several holes drilled directly along strike to the northwest and drilling is underway to test the depth extensions of the main zone. Drilling to follow up the high grade intercept at Aakenusvaara has also been planned, and grant of the Ruopas exploration licence application, containing a nickel-copper sulphide target, is still awaited pending resolution of an objection by one landowner.

Assay results have been received from three holes drilled to the east of the main trend on a section 80 metres north of the holes announced on 26<sup>th</sup> September 2019. The westernmost of these, which is still well to the east of the main northwest trend, has intersected several zones of mineralisation including 0.96 metres @ 2.4 g/t gold from 24.73 metres, 1.81 metres @ 4.8 g/t gold from 33 metres (including 0.57 metres @ 14.5 g/t gold from 34.24 metres) and 4.49 metres @ 1.2 g/t gold from 38m in hole FAVD0047 located due north of previously reported hole FAVD0039. Assay results are still pending for the two holes drilled to the west of this hole, where the main mineralised trend is projected to strike through. These are expected during the next two weeks.

To the north of this section the trend of the main zone project north-westwards beneath a swamp which is currently inaccessible. This will be drilled once the ground freezes during winter. Similarly, potential south-easterly strike extensions will be drilled as soon as the ground is sufficiently frozen to permit access.

In the meantime, the rig has commenced drilling holes to test for down-dip extensions of the mineralisation defined to date. This drilling will proceed for several weeks and assay results from these holes are expected over the next month.

At the Aakenusvaara gold prospect, several holes have also been planned to test along strike and down dip of the high grade intercept of 2.11 metres @ 86 g/t gold in hole FAKD0002 (refer to S2 ASX announcement of 26<sup>th</sup> September 2019), which is the deepest hole drilled to date.

At the Ruopas nickel-copper sulphide target, grant of the exploration licence has been delayed pending resolution of an objection by a landowner. This target will be drilled once this objection is resolved.

#### For further information, please contact:

Mark Bennett Managing Director & CEO +61 8 6166 0240 Anna Neuling
Executive Director & Company Secretary
+61 8 6166 0240



#### **Competent Persons statement**

The information in this report that relates to Exploration Results from Finland is based on information compiled by Mr John Bartlett, who is an employee and shareholder 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.

Table 1. Details of all diamond holes completed at Paana central lease (including Aarnivalkea) in 2019 by S2. Note Holes marked with an asterisk\* have preliminary results only; # have been extended with results of extension awaiting; NSI – No significant Intercept; and AWR – awaiting results.

Hole	Easting	Northing	RL	Dip	Azimuth	Depth	From	То	Width	Grade Au g/t
FAVD0001	418381	7552400	245	-60	270	95.2	16.08	16.71	0.63	2.0
and							23.66	27.00	3.34	1.3
including							23.66	24.36	0.70	4.6
FAVD0002	418341	7552401	244	-60	270	92.8	87.00	88.00	1.00	1.7
FAVD0003	418301	7552399	244	-60	270	83.8		N	SI	
FAVD0004	418260	7552400	243	-60	270	80.0	21.31	22.19	0.88	1.2
and							62.77	64.19	1.42	0.7
FAVD0005	418221	7552399	243	-60	270	47.8	16.00	17.70	1.70	2.0
FAVD0006	418261	7552400	244	-60	90	100.0	87.00	97.00	10.00	1.0
including							90.00	91.00	1.00	3.6
FAVD0007	418420	7552396	246	-60	270	104.6	32.00	34.00	2.00	0.8
and							62.80	64.60	1.80	1.1
including							62.80	63.70	0.90	3.3
and							75.00	79.30	4.30	0.4
and							88.00	91.00	3.00	0.5
FAVD0008	418210	7551521	239	-60	270	80.4	25.50	27.80	2.30	0.4
and							64.00	65.00	1.00	3.0
FAVD0009	418170	7551521	240	-60	270	71.3		N	SI	
FAVD0010	418131	7551521	240	-60	270	80.6	65.00	71.30	6.30	1.1
FAVD0011	418226	7551441	239	-60	270	81.0	66.00	69.00	3.00	0.6
FAVD0012	418260	7551840	242	-60	270	77.4	35.00	36.05	1.05	2.0
and							42.00	47.50	5.50	2.0
Including							43.41	44.13	0.72	6.7
Including	Including						46.50	47.50	1.00	5.3
And	And						59.90	62.00	2.10	1.6
FAVD0013#	418221	7551841	242	-60	270	224.4	65.28	67.44	2.16	1.9
and					77.9	224.4	A	WR		
FAVD0014	418178	7551841	241	-60	270	165.0	56.16	68.00	11.84	0.5



Hole	Easting	Northing	RL	Dip	Azimuth	Depth	From	То	Width	Grade Au g/t
And							71.50	72.50	1.00	1.0
And							103.00	106.00	3.00	3.0
Including							103.00	104.00	1.00	6.9
And							114.70	120.70	6.00	0.8
FAVD0015	418140	7551841	241	-60	270	89.7	12.21	21.00	8.79	0.3
And							25.00	38.00	13.00	0.3
And							59.00	65.00	6.00	5.4
Including							61.00	65.00	4.00	7.8
And							73.99	78.75	4.76	0.4
FAVD0016	418104	7551842	240	-60	270	89.6	45.00	48.00	3.00	0.4
FAVD0017	418380	7552160	250	-60	270	86.8	71.00	73.00	2.00	0.5
FAVD0018	418340	7552162	250	-60	270	89.8	5.60	9.00	3.40	0.3
And							19.00	22.26	3.26	0.3
FAVD0019	418302	7552161	249	-60	270	89.6	24.00	26.00	2.00	0.4
And							75.94	79.53	3.59	0.3
FAVD0020	418260	7552161	249	-60	270	89.8	5.10	12.48	7.38	0.7
And							18.63	48.00	29.37	0.3
FAVD0021	418221	7552163	249	-60	270	89.8		N	SI	
FAVD0022	418181	7552164	247	-60	270	89.6	54.90	56.00	1.10	1.2
And							71.60	73.00	1.40	0.7
FAVD0023	418142	7552165	247	-60	270	89.3	56.05	57.00	0.95	2.8
And							59.15	60.00	0.85	1.1
FAVD0024	418061	7552160	244	-60	270	98.8	NSI			
FAVD0025	418002	7552162	241	-60	270	98.8	96.80	98.80	2.00	0.4
FAVD0026	418461	7552396	246	-60	270	145.9	57.00	61.00	4.00	0.3
And							77.47	78.49	1.02	1.9
And							81.00	84.00	3.00	1.1
And							86.98	88.90	1.92	2.0
And							105.69	107.42	1.73	1.1
And							117.58	134.92	17.34	0.4
FAVD0027	418480	7552719	243	-60	270	89.7	NSI			
FAVD0028	418440	7552720	242	-60	270	89.8	NSI			
FAVD0029	418401	7552721	242	-60	270	89.9	NSI			
FAVD0030	418360	7552721	242	-60	270	68.9	47.90	50.90	3.00	1.3
FAVD0031	418300	7551840	242	-60	270	150.0	82.00	91.50	9.50	0.8
Including							85.18	86.63	1.45	4.1
And							123.63	126.80	3.17	0.9
And							137.68	146.00	8.32	0.4



Hole	Easting	Northing	RL	Dip	Azimuth	Depth	From	То	Width	Grade Au g/t
FPAD0001	419580	7553800	251	-60	270	83.7		N	SI	<u> </u>
FAVD0032	418300	7551760	239	-60	270	110.0	79.50	81.09	1.59	0.6
FAVD0033	418260	7551760	239	-60	270	206.9	66.00	68.00	2.00	3.4
							77.00	80.00	3.00	0.4
							97.00	100.91	3.91	0.3
							110.9	206.9	A	WR
FAVD0034	418220	7551760	239	-60	270	110.6	16.00	20.00	4.00	0.4
And							63.00	63.88	0.88	2.1
And							67.00	69.00	2.00	0.5
And							74.02	83.93	9.91	1.8
Including							83.00	83.50	0.50	16.5
And							86.50	87.53	1.03	4.2
And							108.00	110.00	2.00	2.4
FAVD0035	418300	7551920	244	-60	270	111.0	30.00	44.30	14.30	0.4
And							75.00	76.38	1.38	0.9
FAVD0036	418260	7551920	244	-60	270	110.6	56.00	61.00	5.00	0.3
FAVD0037	418220	7551920	243	-60	270	110.3	16.53	18.74	2.21	2.9
And							76.00	82.00	6.00	0.2
FAVD0038	418180	7551920	243	-60	270	110.7		N	SI	
FAVD0039	418140	7551920	243	-60	270	110.9	64.63	78.60	13.97	1.8
Including							76.00	76.60	0.60	30.7
And							94.47	97.85	3.38	0.4
FAVD0040	418100	7551920	243	-60	270	110.7	17.60	20.20	2.60	0.7
And							32.20	33.67	1.47	1.2
And							41.49	43.50	2.01	18.4
Including							41.49	42.50	1.01	36.2
And							47.29	53.75	6.46	2.0
Including							50.00	51.00	1.00	7.6
And							58.75	62.71	3.96	1.5
FAVD0041	418060	7551920	243	-60	270	110.7	5.90	8.00	2.10	0.3
FAVD0042	418340	7552000	246	-60	270	110.4	87.00	91.00	4.00	0.3
FAVD0043	418300	7552000	246	-60	270	110.5		N	SI	
FAVD0044*	418260	7552000	246	-60	270	110.3	16.00	22.00	6.00	0.2
And							66.00	70.00	4.00	0.7
FAVD0045	418220	7552000	246	-60	270	110.4	74.23	76.00	1.77	0.7
FAVD0046	418180	7552000	246	-60	270	111.0	59.00	65.73	6.73	0.4
and							103.00	109	6.00	0.2
FAVD0047*	418140	7552000	245	-60	270	110.9	24.73	25.69	0.96	2.4



Hole	Easting	Northing	RL	Dip	Azimuth	Depth	From	То	Width	Grade Au g/t
and							33.00	34.81	1.81	4.8
Including							34.24	34.81	0.57	14.5
and							38.00	42.49	4.49	1.2
FAVD0048	418100	7552000	244	-60	270	110.8		AV	VR	
FAVD0048	418100	7552000	244	-60	270	110.8	AWR			
FAVD0049	418060	7552000	244	-60	270	110.4	AWR			
FAVD0050	418120	7552080	244	-60	270	110.3		AV	VR	
FAVD0051	418080	7552080	244	-60	270	110.5	AWR			
FAVD0052	418040	7552080	244	-60	270	110.2	AWR			
FAVD0053	418090	7551520	244	-60	270	110.6	AWR			
FAVD0054	418050	7551520	244	-60	270	110.8		AV	VR	

The following Tables are provided to ensure compliance with the JORC code (2012) edition requirements for the reporting of exploration results.

#### **SECTION 1 SAMPLING TECHNIQUES AND DATA**

Criteria	JORC Code explanation	Commentary
Sampling techniques	Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.	Base of Till (BoT) drilling is undertaken by Moreenityo Macklin Oy of Sattanen, Finland. Holes are drilled to bedrock or blade refusal and a 20cm sample is collected at the end of hole for geochemical analysis and lithological logging. Drilling is undertaken using MK Drilling of Ranua, Finland drilling NQ2 rod size with a DDH size of 75.7mm and core size of 50.7mm. NQ2 core samples are logged and marked up by S2 personnel. Unbiased core sample intervals were cut in half by diamond saw with half core sent for preparation and analysis at ALS Laboratories.  All rock grab and rock float samples are collected from outcrop by S2 personnel and marked into sample books and a representative portion of the sample retained. All are forwarded for analyses by ALS Laboratories.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used	Sampling and QAQC procedures are carried out using S2 protocols as per industry best practice.
	Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information	Diamond drilling was used to obtain core samples that have been cut and sampled on intervals that are determined by lithology and mineralisation.  The drill core samples are sent to ALS Laboratories for analyses for gold and base metals. Drill core is sampled at S2's facilities in Kittila, Finland.



Criteria	JORC Code explanation	Commentary
Drilling techniques	Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, facesampling bit or other type, whether core is oriented and if so, by what method, etc).	Base of Till drilling is by a percussion flow through sample bit that can collect a 20cm sample of bedrock material at the base of glacial deposits up to 20m thick.  Diamond drilling with NQ2 wireline bit producing a 50.7mm diameter core.
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed	BoT samples are visually inspected to assess if they are likely to be a basement sample or whether the hole has failed to reach basement due to boulders or excessive cover thickness. Diamond Drill core recoveries are recorded by the driller and written on core block markers. The exact recovery is then recorded on a metre basis after core mark-up and recorded in the database.
	Measures taken to maximise sample recovery and ensure representative nature of the samples	Sample quality is qualitatively logged on a metre basis, recording sample condition.
	Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	No relationship has been seen to exist
Logging	Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.	The logging uses a standard legend developed by S2 which is suitable for implicit wireframing. All diamond holes are geotechnically and structurally logged.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	All core has been photographed both dry and wet. Geological logging of the diamond drill holes is into tough books using standardised codes and templates. These logs are then imported into S2's central database
	The total length and percentage of the relevant intersections logged	All drill holes were logged in full.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	Core sawn in half and half core taken for assay.
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	Bot samples are dried and sieved with the fine fraction submitted for assay.  The coarse fraction is retained and logged
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Samples were delivered by S2 personnel to ALS Minerals laboratory in Sodankyla, Finland, where they are crushed with >70% <2mm (code CRU-31), split by riffle splitter (code SPL-21), and pulverised 1000grm to 85% <75 um (code PUL-32). Crushers and pulverizers are washed with QAQC tests undertaken (codes CRU-QC, PUL-QC). The prepared samples are forwarded to ALS Minerals Loughrea, Ireland, for analysis.
	Quality control procedures adopted for all sub- sampling stages to maximise representivity of samples.	Full QAQC system in place to determine accuracy and precision of assays
	Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.	For DDH's non biased core cutting through using an orientation line marked on core and cut to the line
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Samples of appropriate size



Criteria	JORC Code explanation	Commentary
Quality of assay data and laboratory tests	The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.	All samples were analysed by ALS Minerals Loughrea, Ireland. BoT samples analysed for gold undergo a 25g aqua regia digestion with ICP-MS finish (code Au-TL43). Samples analysed for Ag, As, Bi, Ca, Cd, Cu, Fe, Hg, Mg, Mn, Mo, Ni, P, Pb, S, Sb, Tl & Zn undergo an aqua regia digestion with ICP-AES Finish (code ME-ICP41). Core samples analysed for gold undergo a 50g fire assay with AA finish (code Au-AA26). Selected samples are analysed for Ag, As, Bi, Ca, Cd, Cu, Fe, Hg, Mg, Mn, Mo, Ni, P, Pb, S, Sb, Tl & Zn undergo an oxidising digestion with ICP-AES Finish (code ME-ICPORE).
	For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.	No geophysical tools were used to determine any element concentrations.
	Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.	Full QAQC system in place including Certified Standards and blanks of appropriate matrix and levels
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	all significant intercepts have been verified by senior S2 exploration personnel, including verifying against drill logging, core photos and/or direct visual inspection of drill core.
	The use of twinned holes.	No twinned diamond holes have been drilled at Arnievalkea
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Primary sampling data is collected in a set of standard Excel templates. The information is managed by S2's database manager for validation and compilation into S2's central database.
	Discuss any adjustment to assay data.	No adjustments made
Location of data points	Accuracy and quality of surveys used to locate drillholes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	BoT collars were located with a handheld GPS with an accuracy of within 3 metres. Diamond drill collars are pegged using a Trimble DGPS to +/- 1m accuracy. Drill rigs are aligned to Grid west using Standard Finnish National Grid ETRS-TM35FIN. The holes are downhole surveyed using a Deviflex tool.
	Specification of the grid system used.	The grid system used is the Standard Finnish National Grid ETRS-TM35FIN.
	Quality and adequacy of topographic control.	Elevation data for all collars is determined by a digital elevation model derived from public domain 2m Lidar data. Topographic control and map data is excellent.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	BoT geochemical samples are drilled at 400m by 20m for initial reconnaissance and 100m by 10m for detailed infill.  Diamond drilling is currently being drilled on 320m x 40m spacing's over the geochemical anomaly to scope out the basement stratigraphy and structure and will be progressively infilled to 80m x 40m with deeper holes as deemed appropriate.
	Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.	Data spacing and distribution is not sufficient at this stage to allow the estimation of mineral resources.
	Whether sample compositing has been applied.	No sample compositing has been applied



Criteria	JORC Code explanation	Commentary
Orientation of data in relation to geological structure	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	Drillhole orientation is designed to intersect the mineralised package of rocks and be perpendicular to shearing and mineralisation. Structural measurements from orientated core indicate that the main fabric and contacts are dipping steeply to the east and hence holes collared at -60dip 270deg azimuth are appropriate.
	If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	The drilling at this stage is preliminary and exploratory. It is not possible to assess if any sample bias has occurred due to drillhole orientation at this stage.
Sample security	The measures taken to ensure sample security.	Chain of custody is managed by S2 personnel. Drill samples and core is visually checked at the drill rig and then transported to S2's logging and cutting facilities by S2 personnel for logging, cutting and sampling. Bagged samples are transferred to ALS Laboratories in Sodankyla, Finland by S2 personnel.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No audits or reviews have been conducted at this stage.

### **SECTION 2 REPORTING OF EXPLORATION RESULTS**

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.	The Aarnivalkea prospect is located within the Paana Central Exploration Licence. ML2018:0081 The exploration licences are 100% owned by Sakumpu Exploration Oy, a Finnish registered 100% owned subsidiary of S2
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	All of the Exploration Licences are in good standing and no known impediments exist on the tenements being actively explored.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	The Aarnivalkea prospect is a greenfield discovery with historic BoT holes drilled in the region by Outukumpu not having been assayed for gold.
Geology	Deposit type, geological setting and style of mineralisation.	The prospect is a shear zone hosted orogenic gold deposit within the Kittila Group of the Paleoproterozoic Central Lapland Greenstone belt.  The primary host rocks include altered and sheared basalt, dacites and sediments  Alteration assemblages include albite, sericite, carbonate, chlorite with disseminated pyrite, pyrrhotite and arsenopyrite.
Drill hole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:  • easting and northing of the drill hole collar  • elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar  • dip and azimuth of the hole  • down hole length and interception depth  • hole length.	Refer to sample plans in text.



Criteria	JORC Code explanation	Commentary
Data aggregation methods	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.	All reported intersections of drilling undertaken by S2 have been length weighted.  A nominal 0.2g/t lower cut-off is used for the reconnaissance diamond drill intersections. No top cut has been applied.
	Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.	High grade intervals internal to broader zones of mineralisation are reported as included intervals.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	None used.
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results.  If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.  If it is not known and only the down hole lengths	The trend of mineralisation at the targets/prospects described is estimated to be dipping steeply to the east at approximately 75 to 80 deg.
	are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').	Refer to figures in body of text.
Diagram	Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	Refer to Figures in body of text.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	All results considered significant are reported.
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	None at present
Further work	The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).  Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive	BoT drilling will continue where ground is accessible throughout summer. This will initially focus immediately south and south west of Arnievalkea where the geochemical anomaly is still open.  Diamond drilling is currently being drilled on 320m x 40m spacing's over the geochemical anomaly to scope out the basement stratigraphy and structure and will be progressively infilled to 80m x 40m with deeper holes as deemed appropriate. A detailed airborne magnetic survey is planned so as to complement infill the current excellent but more regional data. Infill gravity over the Paana tenements is also being planned.



## <u>Aakenusvaara</u>

### **SECTION 1 SAMPLING TECHNIQUES AND DATA**

Criteria	SECTION 1 SAMPLING TECHN  JORC Code explanation	Commentary
	Jone code Explanation	•
Sampling techniques	Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.	Drilling is undertaken using MK Drilling of Ranua, Finland drilling NQ2 rod size with a DDH size of 75.7mm and core size of 50.7mm. NQ2 core samples are logged and marked up by S2 personnel. Unbiased core sample intervals were cut in half by diamond saw with half core sent for preparation and analysis at ALS Laboratories.  All rock grab and rock float samples are collected from outcrop by S2 personnel and marked into sample books and a representative portion of the sample retained. All are forwarded for analyses by ALS Laboratories.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used	Sampling and QAQC procedures are carried out using S2 protocols as per industry best practice.
	Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information	Diamond drilling was used to obtain core samples that have been cut and sampled on intervals that are determined by lithology and mineralisation.  The drill core samples are sent to ALS Laboratories for analyses for gold and base metals. Drill core is sampled at S2's facilities in Kittila, Finland.
Drilling techniques	Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, facesampling bit or other type, whether core is oriented and if so, by what method, etc).	Diamond drilling with NQ2 wireline bit producing a 50.7mm diameter core.
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed	Diamond Drill core recoveries are recorded by the driller and written on core block markers. The exact recovery is then recorded on a metre basis after core mark-up and recorded in the database.
	Measures taken to maximise sample recovery and ensure representative nature of the samples	Sample quality is qualitatively logged on a metre basis, recording sample condition.
	Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	No relationship has been seen to exist
Logging	Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.	The logging uses a standard legend developed by S2 which is suitable for implicit wireframing. All diamond holes are geotechnically and structurally logged.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	All core has been photographed both dry and wet. Geological logging of the diamond drill holes is into tough books using standardised codes and templates. These logs are then imported into S2's central database



Criteria	JORC Code explanation	Commentary
	The total length and percentage of the relevant intersections logged	All drill holes were logged in full.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	Core sawn in half and half core taken for assay.
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	Bot samples are dried and sieved with the fine fraction submitted for assay.  The coarse fraction is retained and logged
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Samples were delivered by S2 personnel to ALS Minerals laboratory in Sodankyla, Finland, where they are crushed with >70% <2mm (code CRU-31), split by riffle splitter (code SPL-21), and pulverised 1000grm to 85% <75 um (code PUL-32). Crushers and pulverizers are washed with QAQC tests undertaken (codes CRU-QC, PUL-QC). The prepared samples are forwarded to ALS Minerals Loughrea, Ireland, for analysis.
	Quality control procedures adopted for all subsampling stages to maximise representivity of samples.	Full QAQC system in place to determine accuracy and precision of assays
	Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.	For DDH's non biased core cutting through using an orientation line marked on core and cut to the line
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Samples of appropriate size
Quality of assay data and laboratory tests	The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.	All samples were analysed by ALS Minerals Loughrea, Ireland. Core samples analysed for gold undergo a 50g fire assay with AA finish (code Au-AA26). Selected samples are analysed for Ag, As, Bi, Ca, Cd, Cu, Fe, Hg, Mg, Mn, Mo, Ni, P, Pb, S, Sb, Tl & Zn undergo an oxidising digestion with ICP-AES Finish (code ME-ICPORE).
	For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.	No geophysical tools were used to determine any element concentrations.
	Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.	Full QAQC system in place including Certified Standards and blanks of appropriate matrix and levels
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	All significant intercepts have been verified by senior S2 exploration personnel, including verifying against drill logging, core photos and/or direct visual inspection of drill core.
	The use of twinned holes.	FAKD0001 was designed to replicate historical drill hole AAV0003 to confirm historically reported intersection. Results of FAKD0001 confirmed the widths and general grades (allowing for natural variation for gold mineralisation)
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Primary sampling data is collected in a set of standard Excel templates. The information is managed by S2's database manager for validation and compilation into S2's central database.
	Discuss any adjustment to assay data.	No adjustments made



Criteria	JORC Code explanation	Commentary
Location of data points	Accuracy and quality of surveys used to locate drillholes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	Diamond drill collars are pegged using a Trimble DGPS to +/- 1m accuracy. Drill rigs are aligned to Grid west using Standard Finnish National Grid ETRS-TM35FIN. The holes are downhole surveyed using a Deviflex tool.
	Specification of the grid system used.	The grid system used is the Standard Finnish National Grid ETRS-TM35FIN.
	Quality and adequacy of topographic control.	Elevation data for all collars is determined by a digital elevation model derived from public domain 2m Lidar data. Topographic control and map data is excellent.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	Diamond drilling is currently being drilled on a nominal 40m x 40m spacing's over the geochemical anomaly to scope out the basement stratigraphy and structure and will be progressively infilled to 80m x 40m with deeper holes as deemed appropriate.
	Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.	Data spacing and distribution is not sufficient at this stage to allow the estimation of mineral resources.
	Whether sample compositing has been applied.	No sample compositing has been applied
Orientation of data in relation to geological structure	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	Drillhole orientation is designed to intersect the mineralised package of rocks and be perpendicular to shearing and mineralisation. Structural measurements from orientated core indicate that the main fabric and contacts are dipping steeply to the north and hence holes collared at -60dip 180deg azimuth are appropriate.
	If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	The drilling at this stage is preliminary and exploratory. It is not possible to assess if any sample bias has occurred due to drillhole orientation at this stage.
Sample security	The measures taken to ensure sample security.	Chain of custody is managed by S2 personnel. Drill samples and core is visually checked at the drill rig and then transported to S2's logging and cutting facilities by S2 personnel for logging, cutting and sampling. Bagged samples are transferred to ALS Laboratories in Sodankyla, Finland by S2 personnel.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No audits or reviews have been conducted at this stage.

## **SECTION 2 REPORTING OF EXPLORATION RESULTS**

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.	The Aakenusvaara prospect is located within the Aakenusvaara Exploration Licence. ML2018:0105-01 The exploration licences are 100% owned by Sakumpu Exploration Oy, a Finnish registered 100% owned subsidiary of S2
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	All of the Exploration Licences are in good standing.  Part of the Aakenusvaara tenement has an environmental exclusion zone with restricted access in spring/early summer.  Aakenusvaara tenement is within a recreational planning zone that has various development restrictions.



Criteria	JORC Code explanation	Commentary
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	The Aakenusvaara is a historic prospect discovered by Outokumpu Oy using BoT drilling along the Sirkka Shear zone in 1984.  The multiple high grade (up to 50g/t) till anomalies were tested by predominantly shallow diamond holes with several gold bearing zones intersected. Drilling was relatively limited in what appears to be the main plane of continuity and better intersections were not followed up.  Follow up drilling was restricted to shallow RC drilling to "test" the method on a known occurrence.
Geology	Deposit type, geological setting and style of mineralisation.	The prospect is a shear zone hosted orogenic gold deposit within the Sirkka shear zone of the Paleoproterozoic Central Lapland Greenstone belt.  Alteration assemblages include albite, sericite, carbonate, chlorite with disseminated pyrite, pyrrhotite and arsenopyrite.
Drill hole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:  • easting and northing of the drill hole collar  • elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar  • dip and azimuth of the hole  • down hole length and interception depth  • hole length.	Refer to sample plans in text.
Data aggregation methods	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.	All reported intersections of drilling undertaken by S2 have been length weighted.  A nominal 0.2g/t lower cut-off is used for diamond drill intersections. No top cut has been applied.
	Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.	High grade intervals internal to broader zones of mineralisation are reported as included intervals.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	None used.
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results.  If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.  If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').	The trend of mineralisation at the targets/prospects described is estimated to be dipping to the north at approximately 50 deg.  Refer to figures in body of text.
Diagram	Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	Refer to Figures in body of text.



Criteria	JORC Code explanation	Commentary
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	All results considered significant are reported.
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	None at present
Further work	The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).  Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive	Currently awaiting results of screen fire assay before any follow- up drilling is to be planned.