# **ASX Announcement**

Monday 9th May 2016





# SVAN VIT ASSAYS CONFIRM VMS-STYLE ZINC, DOWNHOLE EM IDENTIFIES TWO CONDUCTORS

# Highlights

- Assays from the first two drill holes confirm zinc in VMS-style system at Svan
   Vit, Sweden, with several intersections including 5.05m @ 3.15% zinc
- Down hole electromagnetic (DHEM) surveys identify two offhole EM conductors
- Suggests first two holes drilled the western margin of the upper conductor and third hole missed both
- Most of upper conductor and all of lower conductor untested
- Drilling ceased due to the northern Spring thaw but will resume when ground re-freezes

S2 Resources Ltd ("S2" or the "Company") advises that assays received from its first two drill holes confirm the presence of zinc mineralization at the Svan Vit prospect on its 100% owned Skellefte project in Sweden. Down hole electromagnetic (DHEM) surveying in these holes indicates that the main part of the targeted EM conductor is located off the drill section and that the first two holes intersected the western margin of this EM conductor. A third, deeper, hole did not intersect mineralization but DHEM in this hole has identified a second EM conductor that has not yet been drill tested.

A total of three diamond core holes were drilled on a single section to test an EM anomaly first identified in an airborne versatile transient electromagnetic (VTEM) survey and subsequently confirmed with ground EM (see ASX announcement of 21st April 2016). Two of these holes intersected sulphide mineralization, including zinc sulphide mineralization (sphalerite) and the third hole missed (see Figure 1), although it did intersect several alteration zones with minor sulphides.

The first hole (SSVA160001), which clipped the top of the ground EM conductor model and intersected a narrow zone of mixed sulphide mineralization (see ASX announcement of 21<sup>st</sup> April 2016), intersected:



- **0.55m @ 1.49 g/t Au, 45 g/t Ag** from 25.3m
- **1.05m @ 2.87% Zn, 5 g/t Ag** from 88.7m

The second hole (SSVA160002), drilled 90 metres down dip of the first through several zones of mixed sulphide mineralization (see ASX announcement of 21<sup>st</sup> April 2016), intersected:

- **0.55m @ 2.23% Zn** from 164m
- **3.70m @ 1.75% Zn, 5.3g/t Ag** from 170.2m
- 5.05m @ 3.15% Zn, 6g/t Ag, 0.2% Cu from 184.6m

The mineralized intervals in these two drill holes broadly coincide with the position of the EM conductor since redefined in a subsequent downhole EM survey (see Figure 1). Figure 2 shows that the first two drill holes appear to have intersected the northern and western margin of the conductor as modelled from downhole EM, and the central part of it has not yet been tested.

This conductor is modelled as a plate measuring 160m in strike and 180m down dip, but in reality may be more of a plunging elongate lens, as is common in this district.

This may also explain why the third hole (SSVA160003), drilled to intersect the target horizon as modelled in the previous ground EM some 70 metres down dip from the second hole, did not intersect substantial mineralization. The third hole appears to have passed slightly to the west of the conductor as it is now interpreted based on the subsequent downhole EM survey.

Downhole EM surveying in the third and deepest hole (SSVA160003) identified a second EM conductor, which is modelled as measuring 200m along strike and 255m down dip. This deeper conductor is situated below and east of the deepest hole in a position that is broadly co-planar and co-axial with the upper conductor intersected by the first two holes (see Figure 3). Together, these two modelled plates define a southeasterly plunging conductive zone that may reflect single or multiple plunging elongate lenses as is typical of VMS deposits in this district.

The outcomes of the downhole EM suggest that the three holes drilled to date have only tested the margins of a potentially much more extensive zone. Further drilling will be required to adequately test the Svan Vit prospect given that two of these holes intersected low grade zinc and silver bearing VMS-style mineralization on the margin of the upper conductor, and the third missed both conductors.

Drilling will resume as soon as possible later in the year when the ground re-freezes and enables access.

These three holes have successfully confirmed that VTEM is a very useful tool for targeting VMS mineralization in this district. The VTEM anomaly that is now the Svan Vit prospect is the first of the Company's many VTEM conductors identified on its Skellefte project to be tested (see Figure 4). The remainder of the VTEM anomalies so far identified will be prioritised with ground EM and base of till sampling (where ground conditions permit) over the northern summer ready for systematic drill testing later in the year.



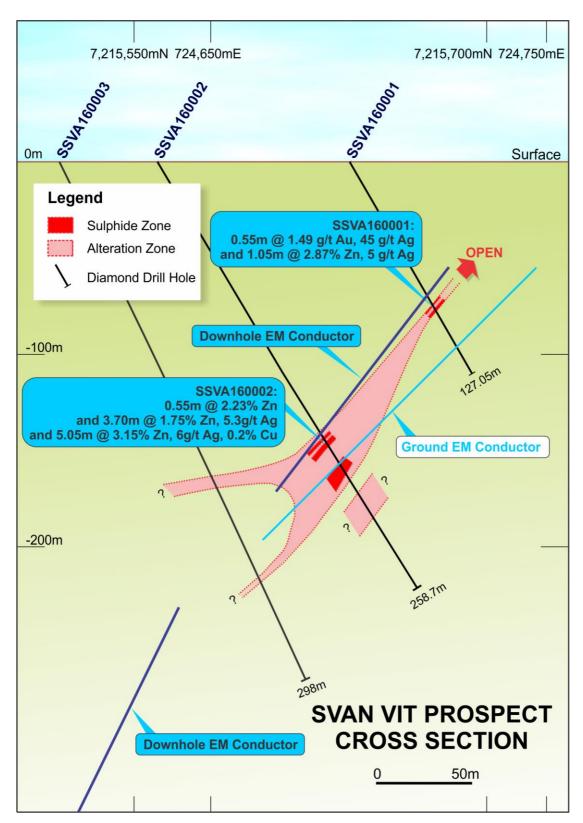


Figure 1. Svan Vit cross section with assayed drill intercepts and various EM conductor plate models. Note that the alteration deepest in SSVA160002 includes chalcopyrite stringers typical of the footwall stockwork zones of VMS systems, and the alteration zone in SSVA160003 includes barren sulphide intervals that are also typical of the marginal parts of VMS systems.



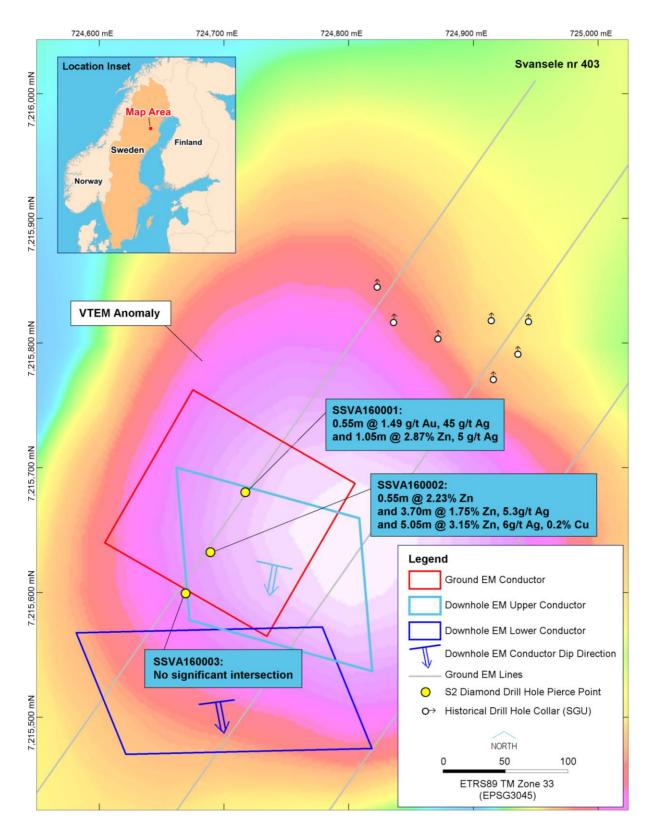


Figure 2. Plan of Svan Vit prospect showing initial VTEM anomaly (colour), original ground EM plate model projected to surface (red rectangle), two new down hole EM plate models projected to surface (pale and dark blue), and drillhole pierce points.



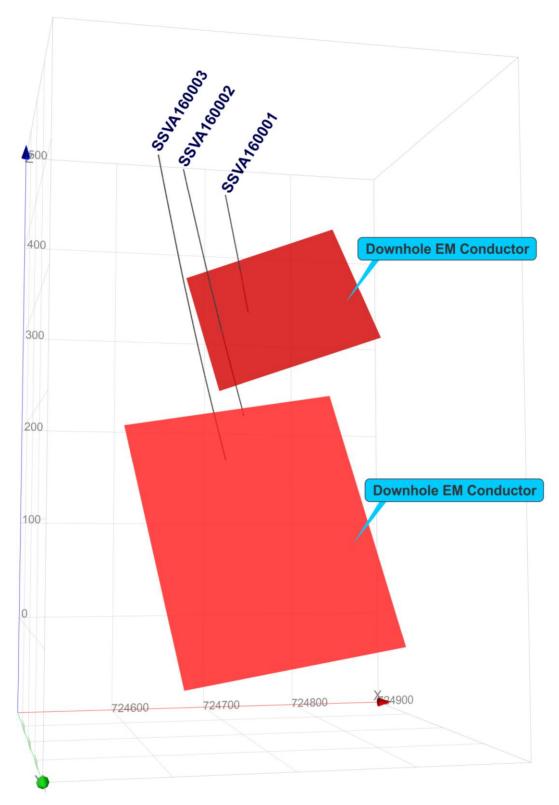


Figure 3. 3D view looking north of two new EM conductor plates as modelled from downhole EM surveying. The first two holes clipped the upper and western edge of the upper conductor and the third hole missed both. The lower conductor lies southeast and beneath the deepest hole and is broadly coplanar and coaxial with the upper conductor, defining a southeast plunging conductive zone.



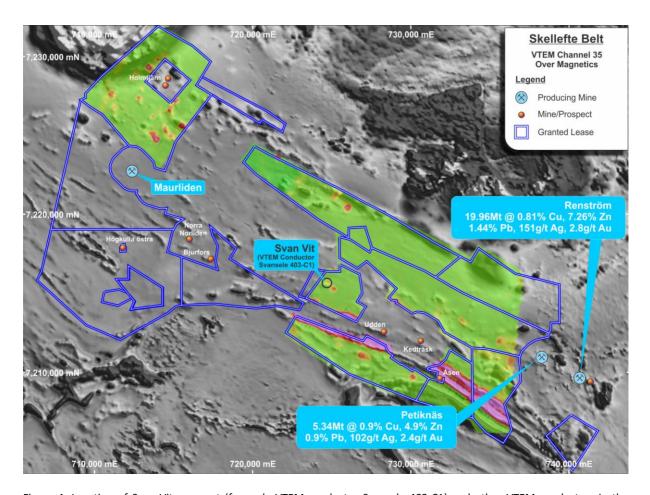


Figure 4. Location of Svan Vit prospect (formerly VTEM conductor Svansele 403-C1) and other VTEM conductors in the Skellefte belt, showing the extent of the existing VTEM survey and some of the new S2 tenure not yet covered by VTEM.

Having demonstrated the effectiveness of VTEM, the Company will also extend its VTEM coverage during the northern summer over recently acquired tenure (see Figure 4).

#### For further information, please contact:

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### **Competent Persons statement**

The information in this report that relates to Exploration Results is based on information compiled by James Coppard who is a consultant to the company. Mr Coppard is a Chartered Geologist, European Geologist and Fellow of the Geological Society of London. Mr Coppard 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 Competent Persons 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 Coppard consents to the inclusion in this report of the matters based on information in the form and context in which it appears.



#### Annexure 1

The following Table is provided to ensure compliance with the JORC code (2012) edition requirements for the reporting of exploration results. Co-ordinates in this table are given in the Swedish National Grid SWEREF 99TM. Fe and S assays reflect quantity of sulphide.

Hole No	Depth m	North	East	Elev m	Dip	Azim	From, m	To, m	Width, m	Au g/t	Ag g/t	Fe %	S %	Cu %	Zn %
SSVA160001	127.05	7215642	724691	429	60	035	25.30	25.85	0.55	1.49	45.0	6.2	2.5	<0.1	<0.1
and							88.70	89.05	1.05	0.03	5.0	14.9	9.8	<0.1	2.87
SSVA160002	258.70	7215560	724634	429	60	035	164.40	164.95	0.55	0.02	<1	8.1	5.8	<0.1	2.23
and							167.70	168.35	0.65	0.03	4.0	29.7	22.1	<0.1	<0.1
and							168.85	169.30	0.45	0.02	6.0	23.1	18.2	<0.1	0.89
and							170.20	173.90	3.70	0.01	5.3	8.7	5.4	<0.1	1.75
and							184.60	189.65	5.05	0.04	6.0	13.0	9.4	0.2	3.15
including							186.40	187.35	0.95	0.09	4.0	21.5	16.2	0.29	4.55
including							188.40	189.65	1.25	0.04	5.0	19.2	13.8	0.16	5.07
and							190.25	191.05	0.80	0.02	<1	18.5	10.3	0.19	0.34
and							201.90	203.20	1.30	0.12	4.0	7.1	2.0	0.37	<0.1
and							207.55	214.05	6.50	0.04	3.0	10.7	2.5	0.25	<0.1
including							207.55	209.00	1.45	0.10	7.0	7.3	2.7	0.43	<0.1
SSVA160003	298.00	7215519	724604	430	65	035	Not yet sampled but no significant intersection based on visual observation								

#### Table 1:

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.	The EM geophysical target at Svan Vit was tested by diamond drilling with a planned two DDH program. Drilling has been undertaken by Protek Norr of Norsjö Sweden drilling NQ2 rod size with a DDH size of 75.7mm and core size of 50.7mm. NQ2 core samples were logged, marked by Sakumpu Exploration ("Sakumpu"*) staff, Unbiased core sample intervals were cut in half by diamond saw. Half core from DDH's SSVA160001 & SSVA160002 has been sent for analyses by ALS Laboratories, whilst SSVA160003 is presently being logged. *Sakumpu is a wholly owned subsidiary of S2
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used	Sampling and QAQC procedures is carried out using Sakumpu/ S2 protocols as per industry best practice.



Criteria	JORC Code explanation	Commentary
	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 from SSVA16001 & SSVA160002 have been sent to ALS Laboratories for analyses for gold and base metals. SSVA160003 drill core is presently being logged at Sakumpu's facilities in Mala, Sweden.
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 core has been orientated on SSVA16003 only using the Reflex Act system operated by Protek Norr.
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed	Diamond Drill core recoveries are visually estimated qualitatively on a metre basis and are 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.	NA
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 initial sampling is considered a qualitative sampling technique and not appropriate for mineral resource estimation. All drillholes have been geologically and geophysically logged and SSVA160003 will in addition be geotechnically logged as well by WSP Consultants (Oulu, Finland office personnel).
	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 onto physical log sheets followed by importing into S2 Resources 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.
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	NA
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Samples were forwarded to ALS Minerals Laboratory in Mala, Sweden. All samples were forwarded to ALS Minerals Ojebyn, Sweden Laboratory where they were 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 were washed with QC tests undertaken (codes CRU-QC, PUL-QC). The prepared samples were forwarded to ALS Minerals Loughrea, Ireland, Laboratories for analyses
	Quality control procedures adopted for all sub- sampling stages to maximise representivity of samples.	Full QA:QC system in place



Criteria	JORC Code explanation	Commentary
Criteria		Commentary
	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.	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 Laboratories. Samples were analysed for Gold using 50grm Fire Assay with AA finish (code Au-AA26) and for Ag, As, Bi, Ca, Cd, Cu, Fe, Hg, Mg, Mn, Mo, Ni, P, Pb, S, Sb, Tl & Zn through 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.	The Managing Director of Sakumpu has visually verified significant intersections.
	The use of twinned holes.	No twin holes have been drilled on the project to date.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Primary sampling data was collected in Sakumpu sample books using project prefix SSVA and unique numbers. The data is then transferred to a set of standard Excel templates. The information will be forwarded to an external database consultant for validation and compilation into a Perth based SQL 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.	Drill hole collars were located with a differential GPS with an accuracy of within 1m.
	Specification of the grid system used.	The grid system used is the Standard Swedish National Grid – SWEREF 99 TM.
	Quality and adequacy of topographic control.	Excellent quality topographic maps produced by the Swedish Authorities – Landmateriat.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	NA
	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.	NA
	Whether sample compositing has been applied.	NA
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.	The diamond drilling orientation was designed to test the geophysical target and is not necessarily drilled perpendicular to the orientation of the intersected mineralisation.



Criteria	JORC Code explanation	Commentary				
	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.	NA				
Sample security	The measures taken to ensure sample security.	Chain of custody is managed by Sakumpu. Drill cores were visually checked at the drill rig and adjacent track (less than 200m from drill rig). Cores were then transported to Sakumpu's logging and cutting facilities by Sakumpu personnel. Core cutting on site and samples transferred to ALS Laboratories in Malå, Sweden by Sakumpu 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 Svan Vit (White Swan) prospect is located within the Svansele nr 403 Exploration Licence (Diary number 2015:39), which is 100% owned by Sakumpu Exploration filial, a wholly owned branch of Sakumpu Exploration Oy ("Sakumpu"), which is in turn a wholly owned subsidiary of S2 Resources Ltd.			
	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.	The Svansele nr 403 Exploration Licence is in good standing and no known impediments exist on the tenement being actively explored.			
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	North of the VTEM anomaly Svansele 403 C1 the historical prospect of Snattermyran. Snattermyran was found from a mineralised boulder in 1902. During 1903-1905 trenching occurred. In 1926 3 DDH's were drilled for a total of 152.17m with a best result of: borrhal 2 3.46m @ 2.45% Zn, 32g/t Ag. In 1980 the Swedish Geological Survey (SGU) drilled 4 DDH's for a total of 375.00m with a best result from DDH 80004 of 2.50m @ 1.65% Zn, 20 g/t Ag. All DDH's were drilled with an approximate azimuth between 345° and 030°.  The above information is the only public domain data pertaining to the prospect.			
Geology	Deposit type, geological setting and style of mineralisation.	The Svan Vit project is situated within the central portion of the Skellefte Belt, a volcanogenic massive sulphide camp dominated by bimodal volcanics, primarily felsic in composition.  The mineralisation style appears from the drill holes typical volcanogenic massive sulphide style mineralisation with greenschist grade metamorphism			
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.	DDH SSVA160001 724691E 7215642N 035°Azi -60° EOH127.05m. RL 429m VMS style mineralisation between 85.75m – 89.75m as in text. DDH SSVA160002 724634E 7215560N 035°Azi -60° EOH 258.70m. RL 429m VMS style mineralisation in varying between 164.40m – 209.00m including a number of barren intervals as in text DDH SSVA160003 724604E 7215519N 035°Azi -65° EOH 298.00m. RL 430m Alteration and 1-5% iron Sulphide mineralisation between 171.50m – 175.00m, 181.10 – 187.90m, 240.50 – 242.80m. No visual base metal mineralisation intersected.			



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.	NA
	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.	NA
	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 Svan Vit is not known at present but core angles indicate that mineralisation is approximately true width.  Borehole EM modelled in Maxwell indicates two steeply dipping plates that are not connected and indicate that the central portion of both conductors are towards the east of the drilled profile.  Refer to Annexure 1 and 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.	Mineralisation is determined visually then sampled and analytical results 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.	The Svan Vit target was a priority VTEM target (Svansele 403 C1) generated during Sakumpu's 2015 VTEM survey that returned a multi-channel response at the target. This target was ground checked by moving loop ground TEM which gave an anomaly that when modelled showed a SW dipping plate that increases in conductance at depth. Base of Till sampling returned a peak geochemical response on top of the geophysical anomaly. All three DDH's drilled were successfully probed by downhole EM by Geovisor of Rovaniemi, Finland. Results of the BHEM are detailed in the body of the text.
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	The weather conditions (northern hemisphere spring thaw) will prevent additional diamond drilling of the target until the ground conditions are appropriate (frozen ground).  The results of the BHEM will be tested through additional diamond drilling with the additional analytical and geophysical responses will determine the extent of the additional drilling.  The additional VTEM targets within the immediate vicinity will be tested.