Svartliden-Eva Deep Drilling Update and Proposed Future Work Programme

Copperstone Resources AB
August 2017

Contents

Executive Summary

Subsequent to the completion of logging and assay of drill core from the recent 2610m Svartliden-Eva deep drilling programme, technical work has since focused on creating a greater understanding of mineralisation intercept trends, an improved hydrothermal genesis model, identification of host rock geology and means of improved geophysical detection. Throughout the summer period, intensive work has included measurement and analysis of sulphide vein orientations, analysis of the geophysical signature coincident with mineralisation, and a study of host rock geochemistry and mineralogy. Comparisons have also been made to other ore bodies within the Skellefte-field region.

The results from all these lines of study have shown a strong consistency, highlighting the suitability for these techniques to become predictive tools for further exploration. Measurement of approximately 1800 sulphide-quartz veins derived from down-hole optical televiewer photography (OPTV) in the 2017 drill holes has further strengthened the dominant ENE-WSW trend and 80˚SSE dip patterns noted in similar studies from 2016 drillholes. The dip and strike of the mineralised veining system is extremely useful for design of future drillhole patterns, interpreting geophysical signatures, correlating grade in resource models, and building onto the working genetic mineralization model.

Downhole induced polarisation (IP) measurements have shown strong correlation between samples with elevated copper (and to a lesser extent gold and zinc) and elevated chargeability (measured with IP). The distinct high chargeability signature across mineralised zones with corresponding lower response across un-mineralised semi-massive pyrite-rich zones provides a confident means of identifying copper-gold mineralisation. This relationship will ensure that for future drilling campaigns all zones of mineralisation in core samples can be detected

using downhole IP. This will give confidence that all drilled mineralized intercepts are found and assayed. Of potentially greater value is the possibility to identify areas of potential buried / blind mineralisation using deep 3-dimensional IP arrays. In conjunction with deep magneto-telluric studies (AMT), the 3D IP approach will enable better validation of conductive / chargeable targets, and allow better integration with the working genetic model being developed for this property. Such integrated geophysical studies are also now possible using the deep drillhole access points to build a comprehensive picture ahead of new drill campaigns.

Geochemistry results have confirmed that the host rock geology consists largely of silici-clastic sedimentary rock units intruded by a complex suite of silicic to intermediate subvolcanic bodies. Mineralogical studies have also confirmed extensive sericite, pyrite and silica alteration attributed to widespread hydrothermal systems that were active before and during mineralisation events.

The 2017 drill campaign has proved the existence of deep hydrothermal alteration patterns, the presence of high grade vein-style Cu-Zn-Au mineralization well below the historical drillhole dataset, and the persistence of structural controls. The best working model for understanding the genesis of mineralization styles on the property consists of early stage (pre-mineral) emplacement of bulbous quartz porphyry stocks at high crustal levels intruded into mature fine-grained volcano-sedimentary units. Early stage pyrite-dominated Zn-Au mineralized sulphide bodies formed as thickened veins / lodes around the periphery of these bodies (Eva-style).

Later emplacements of more dioritic composition are spatially related to hydrothermal breccia and Cu-Au vein-style mineralization. These bodies range from zoned quartz to feldspar porphyritic textured rocks to more even grained varieties, and suggest a complex stock environment associated with mineralization.

The outcome of these value-add studies thought the summer of 2017 has created a platform for recommendation of future integrated exploration work programmes to progress the exploration potential of the property. Initial geophysical work will focus on both 3D IP around the deep drillholes and simultaneous with a broader magneto-telluric study. Analysis of these will generate drill targets within the context of the working genetic model. Core drilling of ranked targets will then follow.

Work Programme

Drilling of the Svartliden-Eva Deep exploration programme started on 1st February 2017 and ended on 23 May 2017. The programme consisted of drilling, logging and sampling three drillholes totalling 2 611m (see Table 1).

Table 1: 2017 Boreholes Drilled and Sampled					
Drillhole	**Length (m)**	**Overburden (m)**	**No. of Samples**	**Sampled Length (m)**	**Sample Coverage (%)**
Cos 17 353	1166.20	16.00	399	391.85	34
Cos 17 354	572.00	14.40	217	218.85	39
Cos 17 355	872.55	13.00	168	167.10	19
Total	**2 610.75**	**43.40**	**784**	**777.80**	**30**

On completion of the drilling the following work programme was then implemented during the summer:

- Review of the Skellefte district geology including site visits addressed in the chapter entitled "Regional Geological Setting and its Implication for Exploration Potential at Copperstone"
- A review of the Geochemistry and Mineralisation at the Copperstone project
- Structural readings taken from all project drillholes that are still open using the optical televiewer (OPTV), including the three Cos 17 drillholes. This resulted in the collection of approximately 1800 sulphide vein readings.
- Downhole Induced Polarisation (IP) testing
- Compilation of results and planning of the next work programme

This report outlines the findings of these studies and the relevance they have on the exploration potential of the project and how it can be further explored. The first chapter outlines the size and grade of deposits within the Skellefte district and why the Coppertone project is considered to potentially be one of the larger deposit targets within in the northern regions of the belt. The second chapter addresses the geochemistry of the host rock geology and tabulates the best drillhole intercepts in the various parts of the project showing the variation in grade, metal distribution and length of mineralised zones. Included in this section is the tonnage and grade where resources have been defined although these are considered to merely form part of a larger mineralising system.

One of the major activities this summer has been the use of WellCad software to measure approximately 1800 structural readings. These have enabled the strike and dip of sulphide veins, non-sulphide veins, fractures and dykes to be determined. This information will be useful in designing future work programmes such that drillholes can be optimally orientated relative to the veins that are drill tested.

The collection and assessment of IP data has been particularly useful in demonstrating the relevance of using this technique in future work programmes to identify zones of mineralisation. This document outlines the details of these various activities, the conclusions derived from these and the recommendations for future work.

Regional Geological Setting and its Implication for Exploration Potential at Copperstone

According to The Finland Geological Survey in their Special Publication on the Mineral deposits and metallogeny of Fennoscandia (*Eilu, P (ed.) 2012*) the Skellefte district in northern Sweden is one of the most prominent gold and base metal districts in the Fennoscandian shield. Eilu (2012) references Boliden (2011) as stating that the total production from the district (1924–2009) was 105mt @ 2.4g/t Au, 60g/t Ag, 0.94% Cu, 4.6% Zn and 0.5% Pb and that reported reserves and resources are 7.45mt and 25mt, respectively, at somewhat lower grades.

The images below (see Figure 1 and 2) show the location of the Skellefte district within Sweden, the project locality relative to existing / historical mines as well as its geological setting. The deposits in this district are largely hosted in meta-volcanics that are overlain by meta-sedimentary rocks.

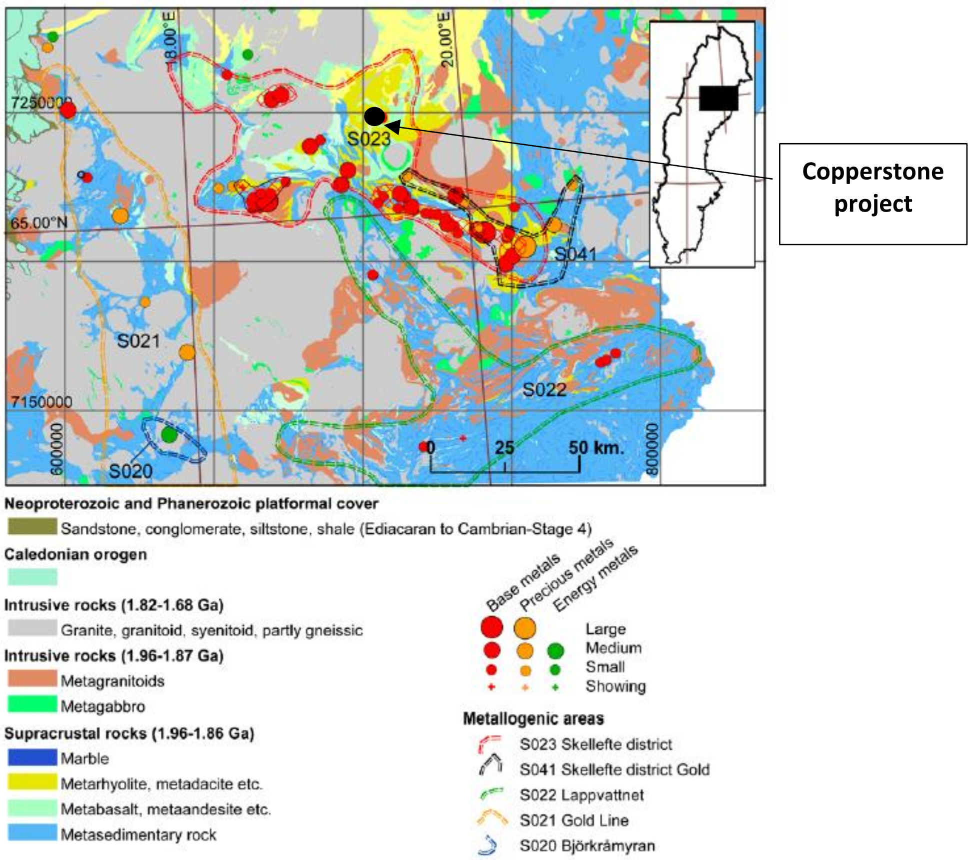

Figure 1: Copperstone project locality within the Skellefte District

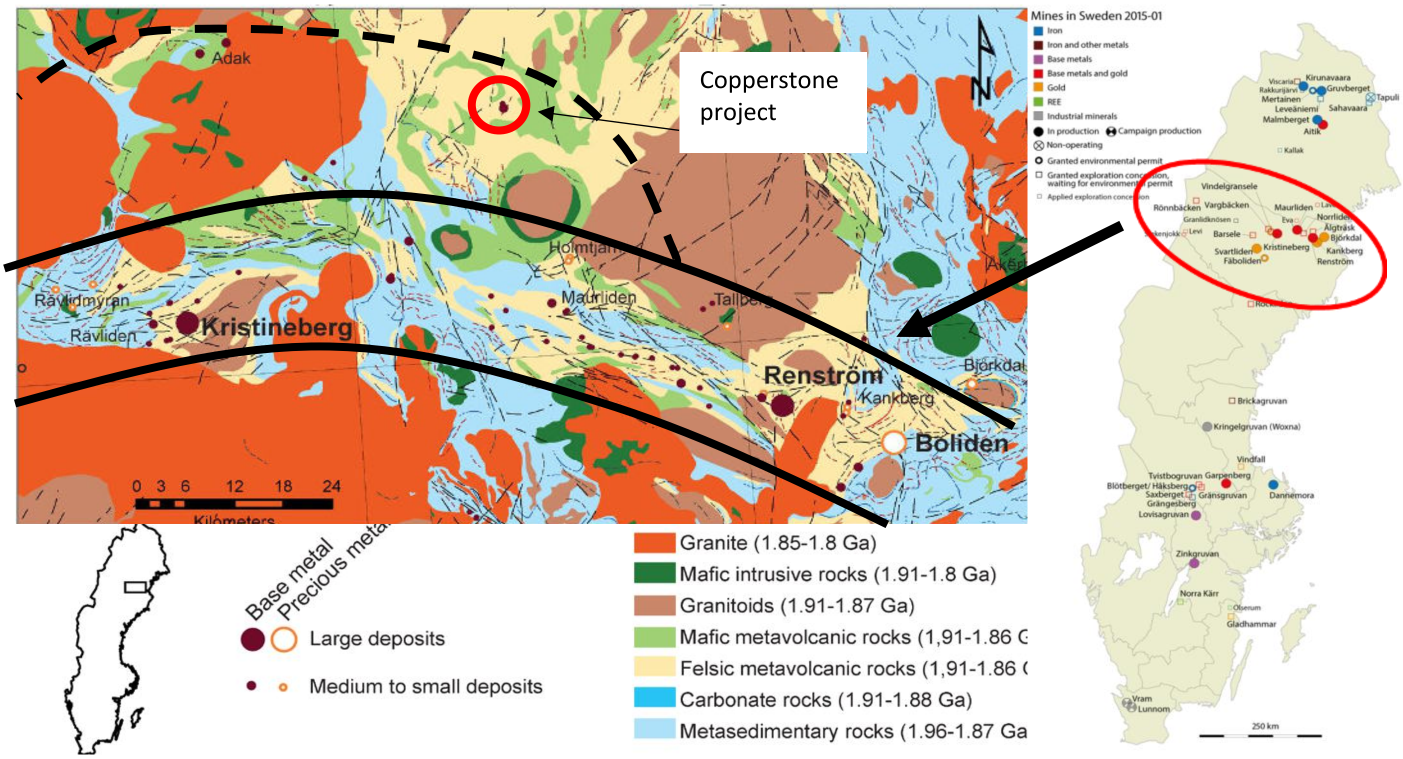

Figure 2: Copperstone project l and geological setting within the Skellefte District

Table 2 below shows an outline of resources, mined tonnage and grades within the vicinity of the Copperstone project.

Table 2: Skellefte District Mines and Resources									
Deposit	**When Mined**	**Resources (mt)**	**Mined (mt)**	**Ag (ppm)**	**Au (ppm)**	**Cu (%)**	**Pb (%)**	**Zn (%)**	**Reference**
Kristineberg	1935-	8.54	25.43	48	1.2	1.1	0.3	6.1	1,2
Renström	1948-	5.66	10.48	151	2.8	0.8	1.4	7.3	1,2
Boliden deposit	1926-1967		8.35	50	15.5	1.4	0.3	0.9	1
Storliden	2002-2008		1.55	30	0.3	4		10	1,3
Rakkejaur	1934-1988		0.72	45	1	0.3	0.2	2.3	1
Långsele	1951-1991		11.2	25	0.9	0.6	0.3	3.9	1
Rävliden	1936-1991		7.54	90	0.5	1	0.8	4.2	1
Adakfältet	1932-1977	0.66	6.35			0.8	0.1	3	1,5
Udden	1971-1990		5.95	39	0.8	0.5	0.3	4.8	1
Rudtjebäcken	1947-1975	1.01	4.74	10	0.3	0.9	0.1	3	1,6
Petiknäs södra	1989-2007		5.4	102	2.4	0.9	0.9	4.9	1,2
Maurliden Västra	2000-	2.84	2.22	49	0.9	0.2	0.4	3.4	1,2
Långdal	1950-1999		4.48	160	1.9	0.1	1.7	5.7	1
Näsliden	1963-1989		4.03	37	1.4	1.2	0.3	2.9	1

Table 2: Skellefte District Mines and Resources									
Deposit	**When Mined**	**Resources (mt)**	**Mined (mt)**	**Ag (ppm)**	**Au (ppm)**	**Cu (%)**	**Pb (%)**	**Zn (%)**	**Reference**
Norrliden Norra		2.34		43	0.54	0.7	0.3	2.9	4
40 smaller deposits		13.74	6.05						

1) Official Statistics of Sweden, Metals and Mining Industry 2) Boliden (2009) 3) Lundin Mining (2008) 4) Gold Ore Resources (2011) 5) Boliden Mineral Adak closure map 6) Boliden Mineral Rudtjebäcken

These resources are generally volcanogenic massive sulphide (VMS) in the order of 5-10mt with 1-2% Cu and 3-5% Zn as well as elevated Pb values. Exceptions include the Boliden deposit which has a particularly high average Au grade of 15.5g/t and Kristineberg which has a mined tonnage of approximately 25mt. Both of these are hosted in hydrothermally altered rock. Whilst the Kristineberg resource is described as a VMS at least part of the mineralisation (such as the Cu-Au rich veins) are considered by certain authors (*Årebäck; et. al. 2005*) to be ascribed to highly acidic hydrothermal fluids. The Boliden deposit is also considered to be atypical of the belt and may have formed as part of a high sulphidation model possibly overprinted by an orogenic gold-type event (*Bergman Weihed et. al; 1996*).

The image below (see Figure 3) shows a comparison between the Boliden deposit and Svartliden/Eva geological model. What is evident is that both show sericite-quartz alteration, cross-cutting sulphide veins and similar geology including quartz porphyry, andesite and meta-sediments.

Most deposits in the Skellefte district are relatively small and what has already been discovered at Copperstone (two resources each of about 5mt – see following section) is comparable in size to what has previously been mined elsewhere within the district. The similarities of Copperstone however with Boliden and Kristineberg, and the differences these projects have with the rest of the Skellefte district shows that these may, at least in part, have a different genetic model, and as a result have larger tonnages and/or higher grades. This suggests that potential exists at Copperstone to discover larger resources in addition to the existing shallow resources. This potential has further been validated by the discovery during the recent deep drilling campaign of deeper mineralisation than was previously known and is also further corroborated by the extensive alteration and steeply dipping angle of the sulphide veins, implying they originated from greater depth.

Figure 3 below also shows the layer parallel Zn-Pb mineralisation at Boliden which may be the equivalent of Zn mineralisation underlying Eva. However this may be coincidental as the Au and Zn at Eva may perhaps represent accumulations of sulphide resulting from upwelling of steeper dipping sulphide veins. What the two projects do definitely have in common though is the steeply dipping sulphide veins cross-cutting stratigraphy, similar host rocks (including quartz porphyry, andesite, meta-sediments) and intense sericite-quartz alteration.

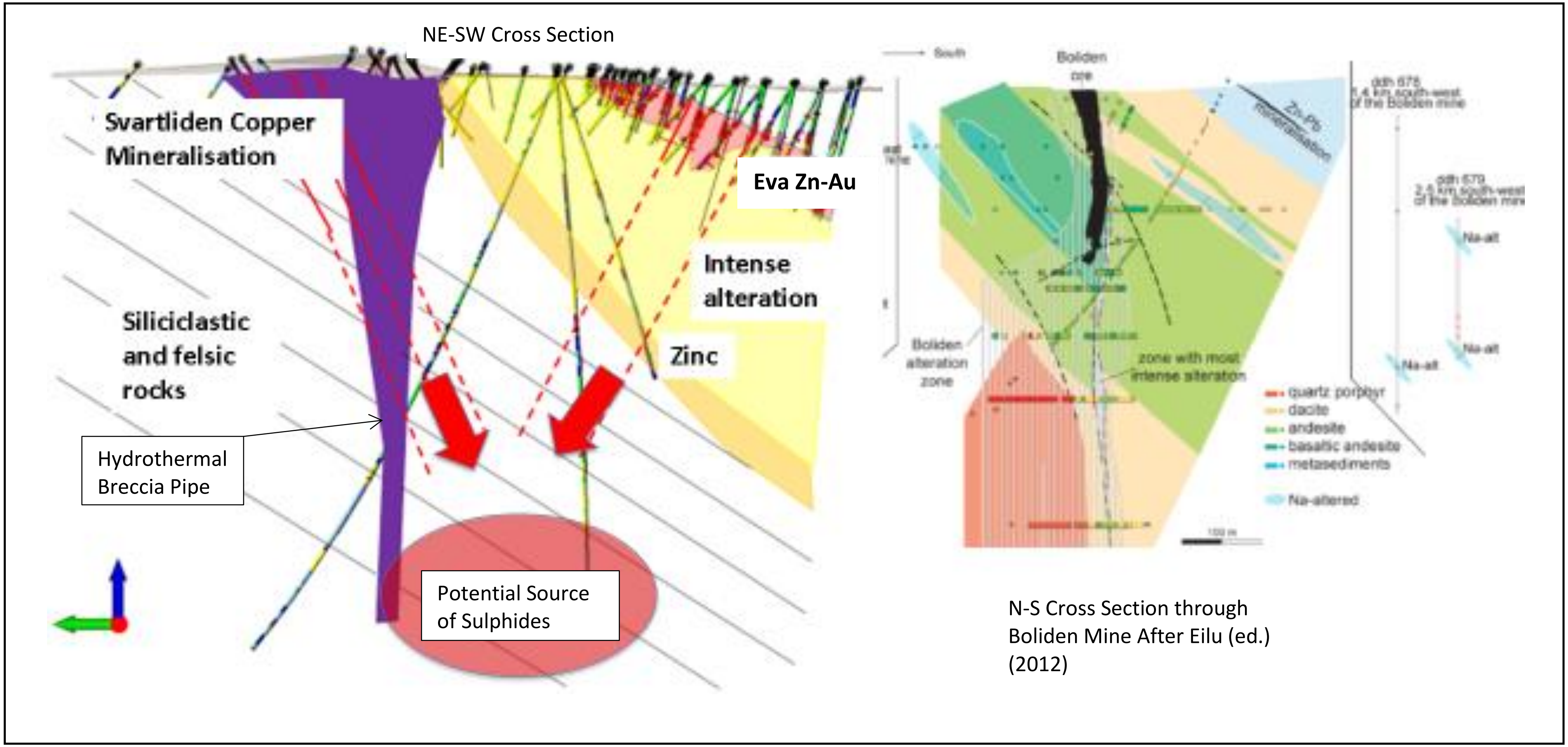

Figure 3: Comparison between Copperstone (interpreted cross-section – not all boreholes are directly in the plane of the section) and Boliden deposit showing similarities which include sulphide veins that cross-cut the stratigraphy, intense alteration, similar lithologies including quartz porphyry, andesite and meta-sediments)

From the knowledge of geology, hydrothermal genesis of mineralisation and the extent of drill tested mineralised sulphide veins the exploration target at Svartliden-Eva includes the following potential:

- Gold bearing arsenopyrite-pyrite veins north and below Eva in the zone of intense phyllic alteration
- Lateral or vertical extensions of the Zn mineralisation intercepted at depth in Cos 17 354
- Depth extensions to the Cu-Au mineralisation intercepted at shallower depth at Svartliden
- Mineralisation forming the source to the veins – possible mineralised stockwork systems.

Geochemistry and Mineralisation at Copperstone

The image below (see Figure 4) shows the distribution of mineralisation within the project including the 5mt Cu Inferred Resource (JORC compliant) at Granliden Hill and Granliden South as well as the 5mt Zn-Au in-house estimate for the Eva resource potential.

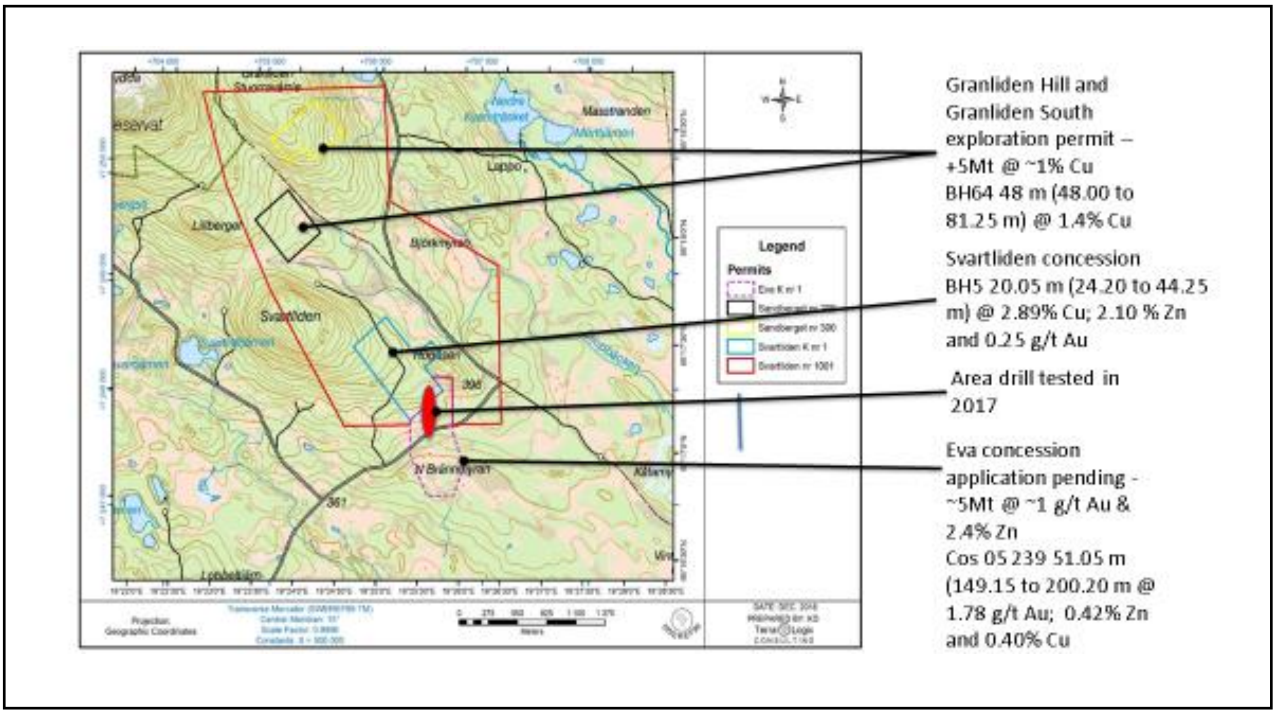

Figure 4: Copperstone licences showing the locality of the resources within the property as well as an example of mineralised intercepts

Due to lack of complete drill fence lines and vein orientation data, the potential shallow resource at Svartliden has not been possible to define.

Tables 3 and 4 below show highlights of mineralised drillhole intercepts for the various areas within the Copperstone project. These values reflect the intercepts as drilled and have not been corrected to reflect true thickness as the shape of the orebody is not yet known. Samples were submitted to an accredited laboratory (ALS Laboratory Group) and internal quality control measures have shown the results to be acceptable both in accuracy (standards plot within acceptable limits), precision (duplicates show sufficient correlation) and sample preparation (blanks show no contamination).

Table 3: Highlights of Borehole Intercepts in Northern Project Area - Granliden								
Area	**Drill Hole**	**From (m)**	**To (m)**	**Width (m)**	**Cu (%)**	**Zn (%)**	**Au (g/t)**	**Ag (g/t)**
Granliden Hill	BH64	48.00	81.25	33.25	1.40	NSV	NSV	8
	Cos05215	18.65	44.50	25.85	1.12	NSV	NSV	7
	BH92	88.20	118.00	29.80	0.88	NSV	NSV	7
	BH41	10.00	39.00	29.00	0.67	NSV	NSV	4
Granliden South	BH31	52.70	62.40	9.70	2.59	NSV	0.40	38
	BH52	65.80	71.05	5.25	3.75	NSV	0.14	31
	BH30	61.05	70.60	9.55	1.76	NSV	0.26	17
	Cos15343	57.00	68.00	11.00	1.53	NSV	NSV	19
Granliden East	Cos06331	260.50	267.70	7.20	1.04	NSV	0.19	13
	and	290.60	315.80	25.20	0.33	NSV	0.10	3
	and	319.20	336.00	16.80	0.55	NSV	0.10	5

Table 3 above shows highlights of significant copper grades over variable drill intercept lengths with values typically in excess of 1.0%.

Table 4: Highlights of Borehole Intercepts in Southern Project Area – Svartliden and Eva								
Area	**Drill Hole**	**From (m)**	**To (m)**	**Width (m)**	**Cu (%)**	**Zn (%)**	**Au (g/t)**	**Ag (g/t)**
Svartliden	Cos16349	27.20	87.00	59.80	0.50	NSV	0.11	7
	Cos05289	191.30	222.70	31.40	0.74	NSV	NSV	11
	Cos04209	42.10	79.25	37.15	0.58	NSV	NSV	8
	BH16	24.33	65.53	41.20	0.49	NSV	NSV	9.9
	BH11	13.57	35.26	21.69	0.85	NSV	NSV	19
	BH5	24.20	44.25	20.05	2.89	2.10	0.25	59
	Cos05283	99.30	105.80	6.50	0.40	5.76	0.58	42
EVA	Cos05250	52.80	104.90	52.10	0.30	3.17	1.35	57
	Cos05252	27.83	66.20	38.37	0.32	2.57	1.01	41
	Cos05214	18.20	39.40	21.20	0.32	5.00	2.69	30
	Cos05259	20.00	57.55	37.55	0.34	2.93	1.70	62
	Cos05239	149.15	200.20	51.05	0.40	0.42	1.78	14
	Cos05243	140.60	229.80	89.20	0.10	0.50	0.91	9

Table 4 above shows highlights of grades over significant drill intercepts with Cu values in the order of 0.5-0.85%. Eva has similarly thick intercepts with values of approximately 0.30% Cu, 0.4-5% Zn and an average Au content of about 1.0g/t.

Table 5 below shows that host rock geochemistry correlates closely to typical values for felsic intrusives and meta-sedimentary rocks. From geological logging Units A (highly altered) and C (less altered) consist predominantly of meta-sedimentary strata and quartz porphyry emplacements. Unit B consists predominantly of pyritic meta-sedimentary strata and more dioritic intrusives found sporadically through the host stratigraphy.

Table 5: Geochemistry of Host Lithologies (Units A to C) Relative to various Rock types

	Cr (ppm)	Ni (ppm)	Co (ppm)	V (ppm)	Mg (ppm)
Basalt	170 to 200	130	48	200 to 250	4.6
Clay and Shale	100	95	20	130	1.34
Shale	90	68	19	130	1.5
Intermediate Intrusive	50	55	10	100	2.18
Sandstone	35	2	0.3	20	2.5
Felsic Granites	25	8	5	40	0.56
Granodiorites	25	8	5	40	0.56
Unit A	2 to 4	<1	<2	<1	<2
Unit B	40 to 70	15 to 30	40 to 60	200 to 300	4 to 6
Unit C	5 to 20	2 to 3	40 to 60	<1	1 to 2

In the Svartliden area historical drilling had intercepted Cu-Zn veins to vertical depths of approximately 200m. From new drilling in 2017 (cos17353 and cos17355), sulphide veins were intercepted at much greater depth (see Tables 6 and 8 below). The second deep drillhole cos17354 drilled below Eva intercepted Zn mineralization from 458m to 470m (see Table 7 below).

These zones of mineralisation are all shown schematically in Figure 5 below. The orientation of these veins (as discussed under the following section) is depicted with the red lines. These lines vector towards possible sources of the mineralization. There may also be a continuum of mineralisation from surface to these deeper intercepts suggesting the potential for significant tonnages.

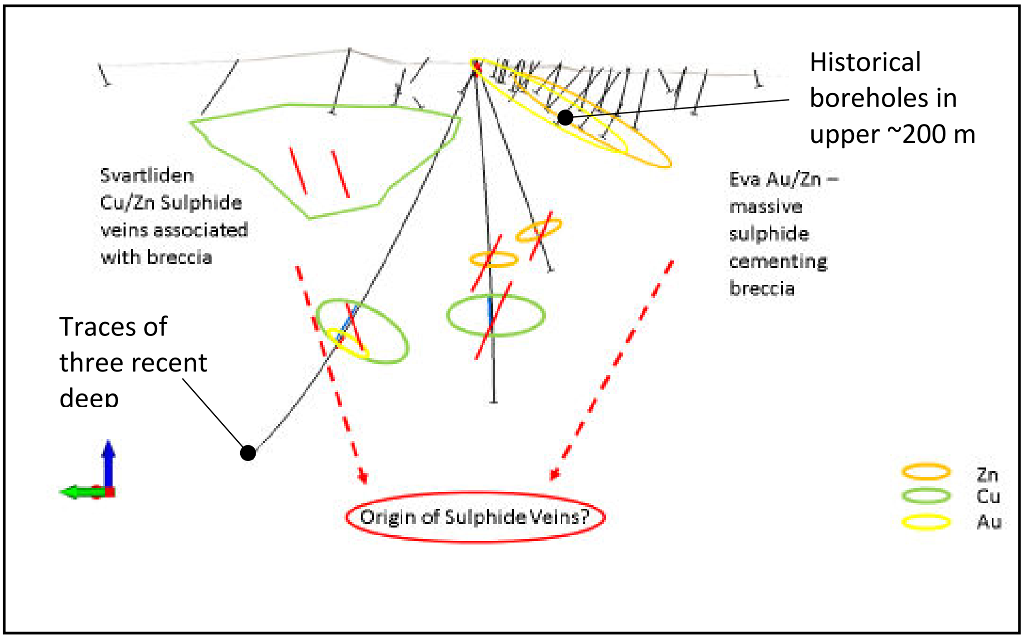

Figure 5: Distribution of Mineralisation as intercepted in historical holes and in recent deep drilling campaign. The circles are around the various Au, Cu and Zn sulphide veins and the orientation of these veins as measured is shown by the red lines (see following section)

Table 6: Select values from Cos 17 353					
From (m)	**To (m)**	**Au (g/t)**	**Ag (g/t)**	**Cu (%)**	**Zn (%)**
20.00	21.00	**0.52**	2.4	0.07	0.01
26.00	27.00	0.37	7.2	**0.57**	0.05
682.00	683.00	0.05	1.5	0.07	**1.18**
698.00	699.00	0.19	**12.1**	**0.63**	0.20
746.00	747.00	0.08	9.4	**0.55**	0.05
768.00	769.00	0.11	8.4	**0.74**	0.05
800.00	801.00	0.24	**19.7**	**0.52**	0.05
813.00	814.00	**0.51**	0.3	0.00	0.02

Table 7: Select values from Cos 17 354					
From (m)	**To (m)**	**Au (g/t)**	**Ag (g/t)**	**Cu (%)**	**Zn (%)**
14.40	16.00	**0.58**	2.6	0.03	0.48
19.00	20.00	**1.32**	5.0	0.13	0.38
20.00	21.00	**2.20**	4.8	0.12	0.27
21.00	22.00	**0.66**	2.1	0.03	0.06
22.00	24.00	**1.37**	3.2	0.06	0.12
25.00	26.00	**0.47**	1.7	0.02	0.68
458.00	459.00	0.11	7.3	0.05	**1.50**
460.00	461.00	0.15	**10.2**	0.12	**2.75**
464.00	465.00	**0.48**	5.1	0.04	**5.55**
467.00	468.00	0.20	3.4	0.07	**2.62**
468.00	469.00	0.05	6.9	0.07	**1.87**
470.00	471.00	0.06	**12.7**	0.17	**4.06**

Table 8: Select values from Cos 17 354					
From (m)	**To (m)**	**Au (g/t)**	**Ag (g/t)**	**Cu (%)**	**Zn (%)**
18.00	19.00	**0.58**	5.2	0.24	0.88
44.70	46.00	0.35	7.2	**0.49**	0.04
495.00	496.00	0.09	**21.6**	**0.79**	0.12
496.00	497.00	0.12	3.1	0.07	**1.12**
497.00	498.00	0.15	3.8	0.09	**1.48**
503.00	504.00	**0.77**	5.9	0.13	0.13
512.00	513.00	**1.25**	**>100**	**1.97**	**5.54**
602.20	603.00	0.08	**23.4**	**2.25**	0.26
603.00	604.00	0.07	**19.7**	**1.20**	0.16
638.00	639.00	0.04	**12.2**	**0.61**	0.11
684.00	685.00	0.05	**10.6**	0.26	0.03
685.00	686.00	0.09	**10.9**	0.27	0.01

Structural Orientation - Optical Televiewer

Using an optical televiewer camera (OPTV) all three deep drillholes were photographed after completion of the drill campaign. The purpose of this exercise is to measure the true orientation of planar features like veins, fractures and geological contacts. The OPTV system captures both drillhole deviation and oriented continuous footage down the boreholes. WellCad software is used for data processing, measurement and corrections in order to create true dip / strike data sets.

The data for each category of measurements (such as veins or fractures) can then be plotted on a stereonet in order to identify if there are any dominant orientations within the datasets. Select images from the drillholes are shown below in Figure 6 below. For each of these three examples, the left hand image is the unwrapped oriented photograph and the right hand stick represents a 3D rotatable image of the extracted drill core.

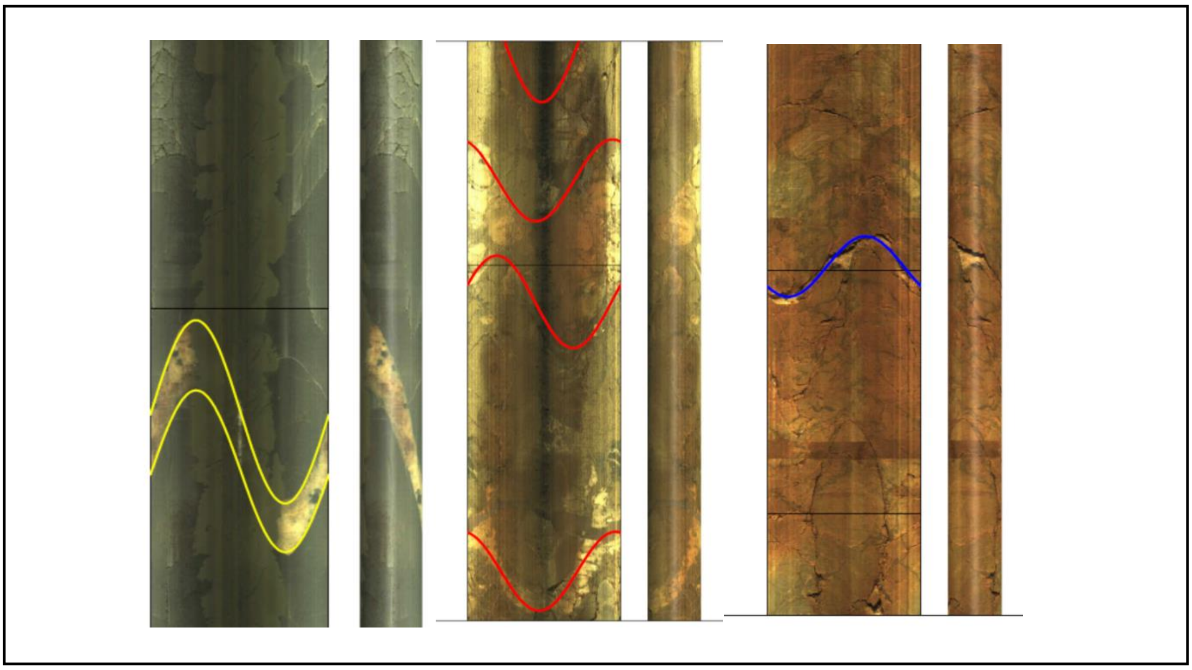

Figure 6: View of footage from OPTV as seen using WellCad software.

The results from stereonet analysis and contoured polar plot images have been shown as rose diagrams in Figure 7 below. The red rose diagram illustrates the strike of the sulphide veins which are predominantly NE-SW, the top right image shows the orientation of non-sulphide bearing veins (which approximates that of the sulphide veins) whilst the rose diagram on the bottom right shows the strike of dykes which is predominantly NW-SE coincident with the second population of fractures. The image on the bottom left shows the dip of the veins which is steep (~80˚) to the SE.

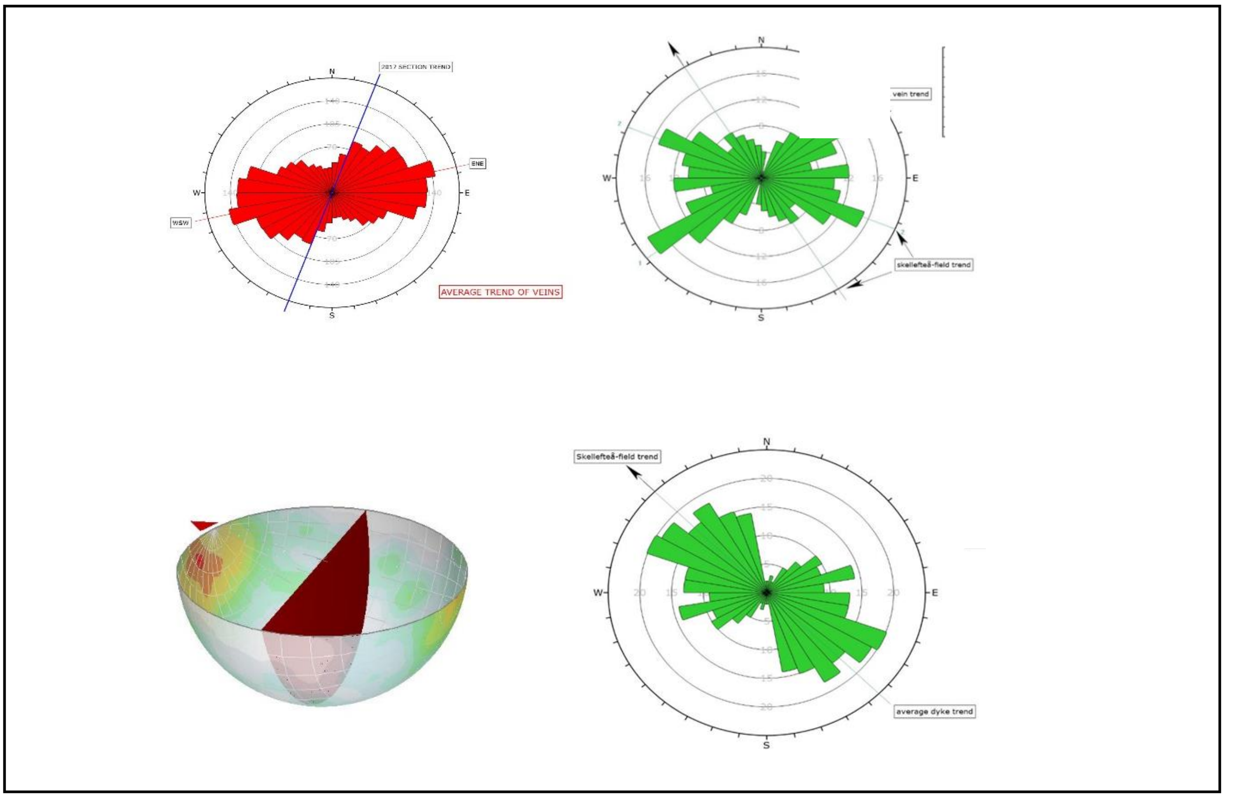

Figure 7: Rose diagrams showing the strike of the sulphide veins (in red); the fractures (top right) and dykes (bottom right). The bottom left image shows the steep dip of the sulphide veins

Relevance for knowing strike and dip of the vein systems is as follows:

- The extent of mineralisation along strike and dip can be tested.
- Drillholes can be orientated so as to intercept the veins more perpendicularly.
- Mineralised zones in adjacent holes can be connected in a manner that is true to the veins orientation thus enabling resource modelling to be carried out.
- 3D geophysical processing can be implemented in a manner consistent with the sulphide vein orientation.
- Geophysical anomalies can be better interpreted utilising the knowledge of vein orientations

The dip of the veins has been illustrated as red lines in Figure 5 which shows how the orientation of these veins can be used as potential vectors towards their source.

Geophysics – Induced Polarisation

Induced polarisation (IP) is a technique that tests the “chargeability” of rocks which indirectly identifies disseminated mineralisation. For the three deep drillholes, IP readings were measured within each borehole. By plotting assay profiles of Cu, Zn and Au against the chargeability readings it is possible to determine how well the IP values correlate with elevated metal values. As shown in the image below there is a very strong correlation between Cu (and to a lesser degree Au and Zn) and chargeability. As there is a high percentage of pyrite at Svartliden and Eva it was previously thought that ground geophysical techniques in this area may not work, or give too many false anomalies. What has been determined from the downhole IP however is that the elevated chargeability values are only coincident with mineralisation and not with barren pyrite. This is illustrated in Figure 8 below.

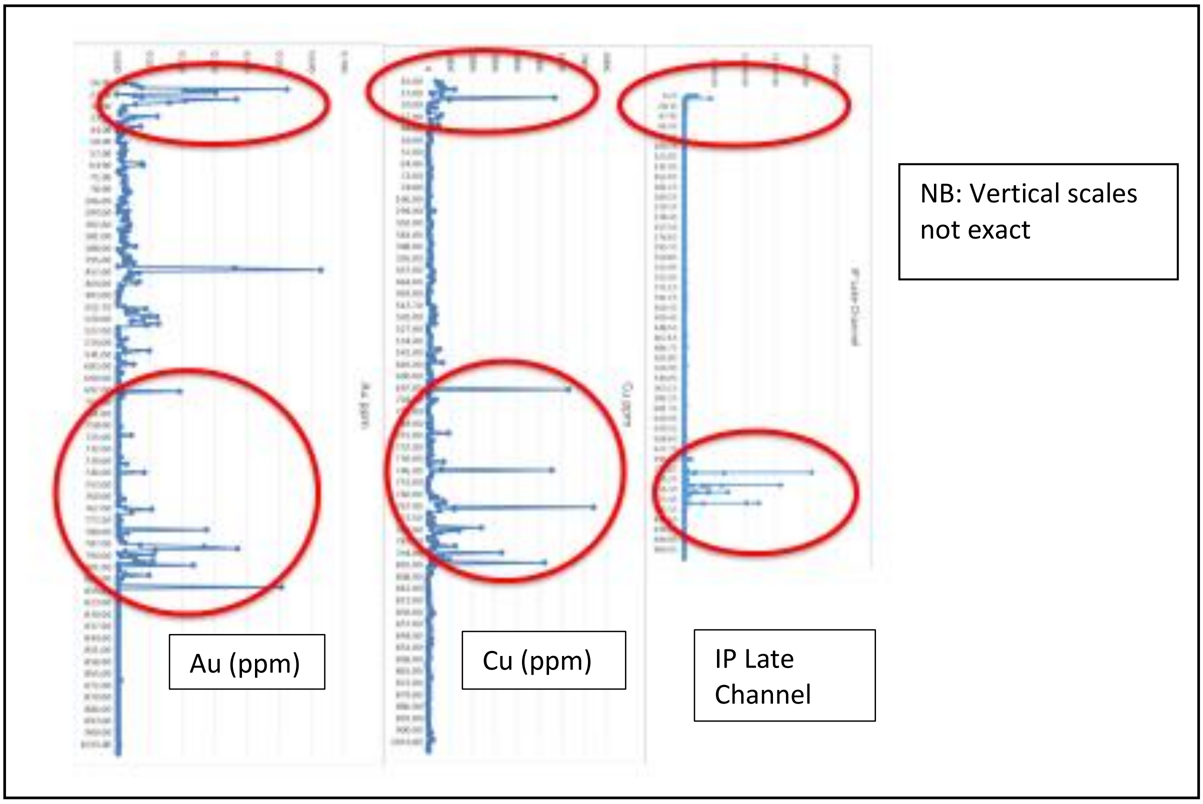

Figure 8: Correlation between IP and Cu and Au values for Cos17 353

The benefit of the IP correlation to elevated metal content is to ensure that all zones of mineralization from individual drillholes are identified and thus assayed.

This correlation also opens up the strong possibility of identifying previously undetected / blind mineralisation by conducting deep 3D IP below the historic drill datasets. This survey technique used to generate deep chargeable targets is limited to areas where deep drill holes are available for probe access.

Recommendation

It is recommended that the amenability of the mineralisation to be detected through IP is utilised by implementing a 3D IP survey. The limitations of this technique in terms of depth penetration and areal extent (as 3D IP is restricted to where boreholes are available for downhole probes) can to some extent be overcome by conducting this survey in conjunction with an anisotropic magneto-telluric (AMT) survey. This technique can be used to generate 3D images of resistivity. An example of this is shown in Figure 9. By interpreting the 3D images created by both survey techniques in conjunction with the borehole data (which can be used to calibrate the geophysical results) drill targets can be generated by identifying areas of high chargeability, low resistivity and anomalous magnetic signatures (magnetics will be conducted together with the AMT).

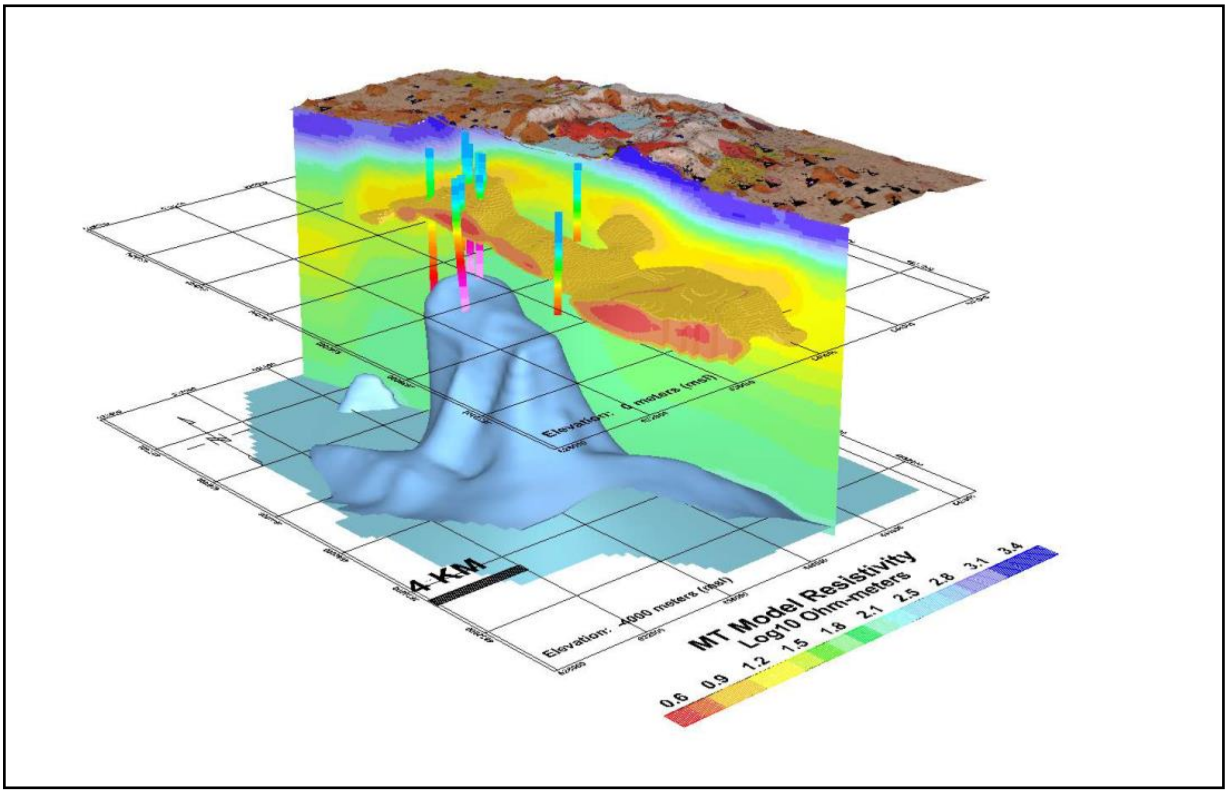

Figure 9: Example of 3D modelling of an AMT survey (from Zonge website)

The geophysical targets would need to be drill tested in conjunction with the depth extent of known mineralisation (including the depth extent of the Granliden and Eva sulphide veins). Metallurgical test work is to be carried out on the various styles of mineralisation to determine the percentage recovery of the metals of interest as well as which processes (such as dense media separation for instance) the ore is amenable to. These studies, in conjunction with others (such as environmental benchmarking) would culminate in an assessment of the various options available to make the project as profitable as possible.