

Thursday's Gossan Copper-Gold Project – Technical Update

Independent Reviews Confirm Stavely's Porphyry Targeting Strategy Remains Firmly on Track

New data from several independent methods confirm that the targeted copper-gold porphyry continues to demonstrate all the attributes of a well-mineralised porphyry system and is likely preserved at depth

Highlights

- Recently received data includes:
 - Age dates;
 - Sulphur isotopes;
 - Whole-rock geochemistry;
 - Short-wavelength infra-red spectrometry; and
 - Updated structural interpretation
- Age dates indicate that the interpreted syn- / early copper-gold mineralisation quartz diorite porphyry (QDP) is younger than the regional intrusive suites and the 'Victor' porphyries targeted by previous explorers.
- A total of 220 sulphur isotope results for pyrite / chalcopyrite have now been received and an additional five sulphur isotope results from anhydrite samples:
 - 65 samples returned very light isotopic values less than -3‰ δ^{34} sulphur – the -3‰ δ^{34} sulphur contour approximates the ore zone outline at Cadia Ridgeway;
 - The distribution of lighter sulphur isotopes displays distinct spatial associations with:
 - High-sulphidation epithermal style high-grade copper-gold mineralisation; and
 - The margins of the QDP and microdiorites both above and below the low-angle structure (LAS) and both east and west of the north-south structure (NSS)
 - The pyrite / anhydrite sulphur isotope pairs display an inferred temperature of formation around 300°C, consistent with a high level of emplacement.
- Whole-rock geochemistry indicates that the QDP and associated dacite porphyries, micro-granodiorites, and tonalite intrusives plot in Louck's 'fertile' field for western Pacific copper and copper-gold mineralised porphyries.
- In particular, the V/Sc ratio maps out the strong hydrothermal system responsible for the porphyry M veins identified in a number of drill holes so far, and is proving to be a very useful vector in following the mineralisation as it is offset by a number of significant structures.
- Short-wavelength infra-red spectrometry demonstrates some correlation between:
 - The shorter-wavelength white mica spectral absorption features and the M vein zones; and
 - Fe-rich chlorites and the M vein zones, indicating a high level of emplacement.

- An updated structural interpretation has modest reverse movement on a composite LAS and both dextral strike slip and a possible normal component of dip slip on the NSS with the main body of the target porphyry inferred at depth on the west side of the NSS.
- *“The body of science and geologic observations behind Stavely’s targeting strategy is comprehensive and collectively defines what I believe to be the most compelling discovery opportunity in Australia, especially in the context of the size of the prize. But, as they say in the industry – IQ gets you there, but HQ¹ finds it!” – Stavely MD, Chris Cairns.*

Stavely Minerals Limited (ASX Code: **SVY** – “Stavely Minerals”) is pleased to provide a technical update from its 100%-owned **Thursday’s Gossan prospect** in the Stavely Copper-Gold Project, located in western Victoria (Figure 1).

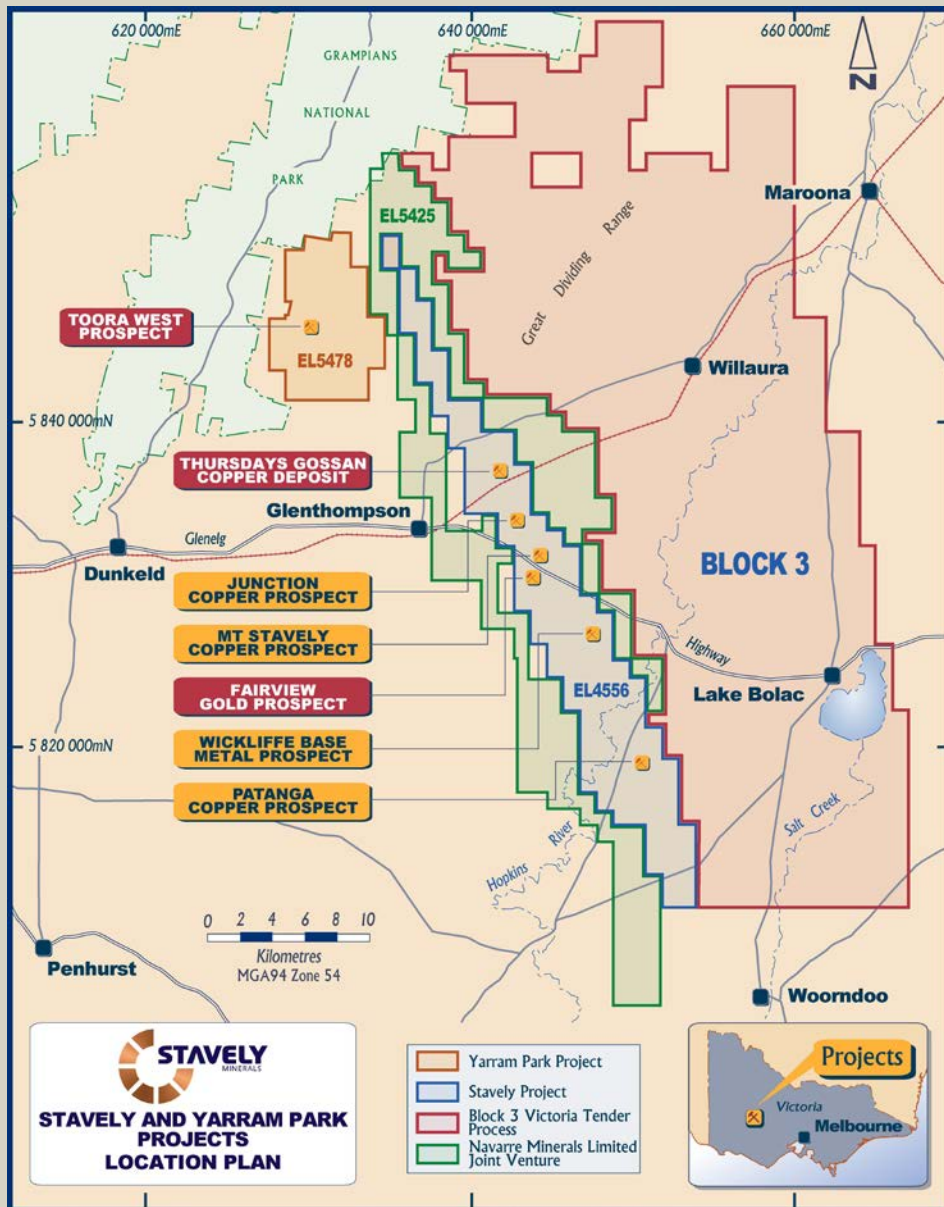


Figure 1. Stavely Project location map.

¹ refers to HQ sized diamond drill core

Summary

The Thursday's Gossan prospect appears to have been subject to at least two major phases of porphyry intrusion. The earlier 'Victor' porphyries represent a large, low-grade copper-only system. The second phase of porphyry intrusion / alteration and mineralisation appears to be a potentially smaller, copper-gold mineralised porphyry system located at the northern end of the earlier system.

Numerous geologic observations (as reported by Dr Corbett) indicate that the second copper-gold porphyry system is preserved at depth with high-level indications including:

- Porphyry A veins
- Abundant porphyry D veins
- Aplite vein dykes
- Porphyry M veins (although they can also occur deeper)
- Low crystallinity illite in M vein intervals
- Lower temperature iron-rich chlorite in M vein intervals
- High-level advanced argillic alteration minerals pyrophyllite, alunite, diaspore and dickite in SWIR data
- High-level high-sulphidation and carbonate-base metal copper-gold mineralised intervals

Observed overprinting prograde and retrograde alteration sequences indicate a multi-phase intrusive / alteration / mineralisation sequence considered a requisite for well-developed porphyry copper-gold mineralisation

There may also be significant telescoping of mineralisation with M veins located as shallow as 100m below surface and high-sulfidation mineralisation (6m @ 6.73% copper and 0.84 g/t gold) intercepted at greater than 500m depth (see ASX announcement 5 October 2018). This telescoping and overprinting of higher-level mineralisation over earlier porphyry-style mineralisation is also a common attribute of some of the highest-grade copper-gold porphyries.

The ability to map out the hydrothermal system with V/Sc is taken to reflect the hydrous nature of the melt – and is evidenced by the intensity of M veins observed in SMD015 for example.

Further, the causative magma and mineralising fluids are interpreted to be very oxidised as evidenced by the very light sulphur isotopes observed associated with the QDP and micro-diorites.

In summary, the technical evidence would overwhelmingly appear to support the geologic observations that the late porphyry at Thursday's Gossan is copper-gold rich, is multi-phase, is preserved at depth, is very juicy (hydrous) and strongly oxidised (can carry lots of copper and gold), demonstrates potential for telescoping of mineralisation and represents an outstanding discovery opportunity.

Overview

The purpose of this announcement is to get technical data released in a public report in compliance with the JORC Code so that it can subsequently be incorporated in technical presentations in which the target audience is geoscientists, some of whom are employed by mining companies with a ‘watching brief’ interest in Stavelly Minerals’ activities. The other target audience is technically sophisticated investors. The data may not be considered market sensitive in isolation but they do provide material technical context to the price sensitive drilling results that Stavelly Minerals has been reporting over the past year or more.

Recent drilling at Thursday’s Gossan has been following-up on previous porphyry M vein intercepts below the Low-Angle Structure (LAS) in drill holes SMD017 and SMD024 (Figure 2) and testing magnetic features that may be reflecting porphyry M veins or disseminated magnetite associated with copper-gold mineralisation. Those M vein intervals were located on the east side of the North-South Structure (NSS). Of significance, the intercept in SMD024 was associated with 70m at 0.22% copper where the M veins hosted intergrown chalcopyrite copper sulphide mineralisation.

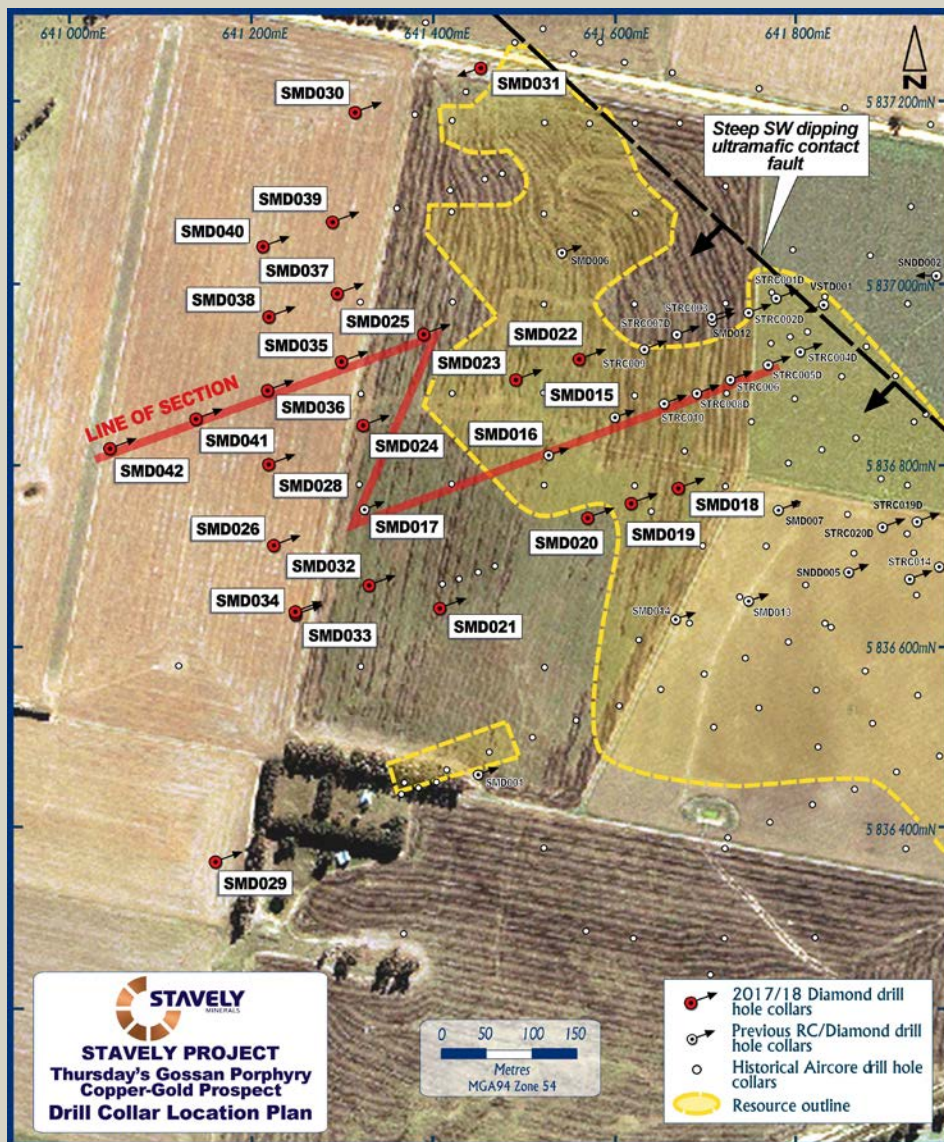


Figure 2. Thursday’s Gossan collar location plan showing the section line for Figure 3 below.

Recent drilling has identified that the M vein intervals in SMD017 and SMD024 below the LAS were truncated by a near vertical NSS and offset with the west side north (dextral sense of movement) also with a possible normal component resulting in the west side down.

The drilling is aiming to progress into the hotter part of the mineralised system, where higher-grade copper and significantly higher-grade gold are expected to be located (Figure 3).

As reported in the September 2018 Quarterly report, drill holes SMD035 and SMD036 intercepted a QDP with M veins, while M veins and disseminated magnetite ± chalcopyrite in andesite and sandstone were also intercepted in SMD037 / 038 below the LAS and west of the NSS. Recent drilling of SMD041 behind SMD036 has likewise intercepted porphyry A veins ± magnetite ± chalcopyrite in an andesite and porphyry M veins in a microdiorite and the QDP. Drill hole SMD042 is in progress.

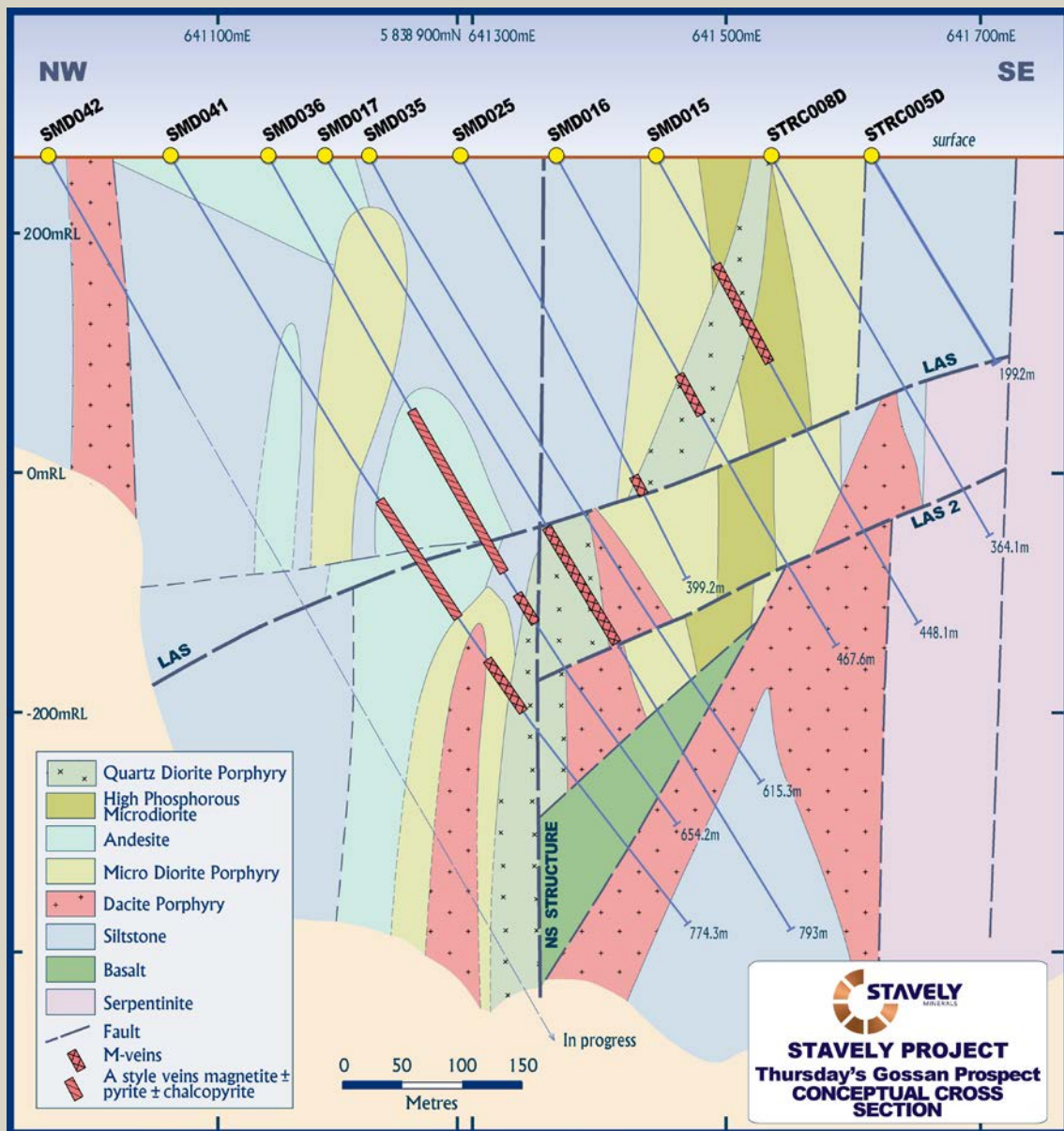


Figure 3. Composite X-section taking into account the dextral strike slip movement on the North-South Structure (NSS) as per the section line in Figure 2 above.

Technical Data

Stavelly Minerals has been employing a multi-disciplinary approach to guide drilling towards the inferred mineralised porphyry intrusion. The foundation of the search is geologic observation supported with extensive petrographic descriptions. This is supplemented with:

- Whole-rock geochemistry to determine the fertile intrusive phases
- Age dating to understand both the regional age relationships and the relationships between different units observed at the prospect scale
- Routine multi-element geochemistry to assist in chemical fingerprinting of units and the use of immobile element ratios to map out the hydrothermal alteration / mineralisation system
- Short-wavelength Infra-red (SWIR) spectrometry to map out the distribution / chemistry / crystallinity of the hydrothermal alteration mineralogy
- δ^{34} sulphur isotope analysis to evaluate the distribution of lighter / heavier sulphur isotopes as they relate to a pure / mixed magmatic fluid and its relative state of oxidation. The lighter isotopic results are taken to indicate both greater proximity to a magmatic source and also speak to the oxidation state of the mineralising fluids and their enhanced ability to transport copper and gold into a mineralised position.

This announcement will describe the general geologic attributes of the observed system in terms of host units, age date relationships, hydrothermal alteration and mineralisation and structural disruption.

The spatial distribution of these attributes and interpretations will then be described in the context of the supporting litho-geochemical, SWIR, and sulphur isotope data.

Generalised Geology of the Stavelly Project Area

In the Thursday's Gossan prospect area, imbricate thrust slices of the older Williamsons Road Serpentinite and the Glenthompson Sandstone are in structural contact with Stavelly Arc components including the Fairview Andesite Breccia, Nanapundah Tuff, Towanway Tuff and Narrapumelap Road Dacite.

The earlier Williamsons Road Serpentinite and the Glenthompson Sandstone units are intruded by an early felsic intrusion and the Chatsworth Basalt prior to the development of the Stavelly Arc.

The Stavelly Arc units are subsequently intruded by a series of porphyries (including the 'Victor' porphyries at Thursday's Gossan) and late in the intrusive history, by the Bucheran Diorite and the Bushy Creek Granodiorite complex with the majority of magmatic intrusions in the Mount Stavelly Volcanic Complex dated between 506Ma-500Ma (Figures 4 and 5).

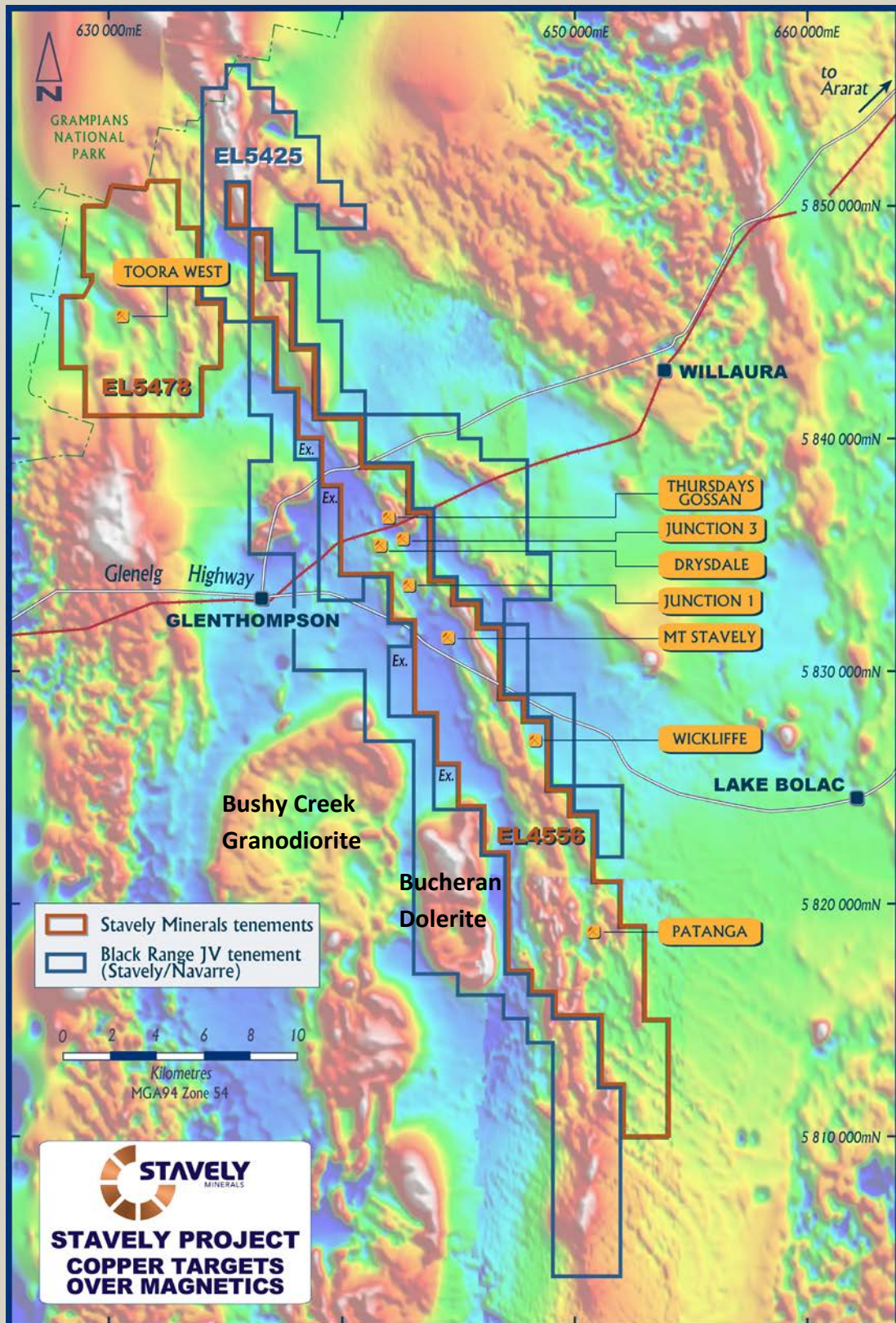


Figure 4. Aeromagnetic image of the Stavely Project area. The Stavely Volcanic Arc is exposed / under shallow cover in the centre of the tenement package. The Williamsons Road Serpentinite is the ‘stringy’ highly magnetic unit to the east and the Fairview Andesite Breccia is the broader magnetic unit in the central portion of the tenement.

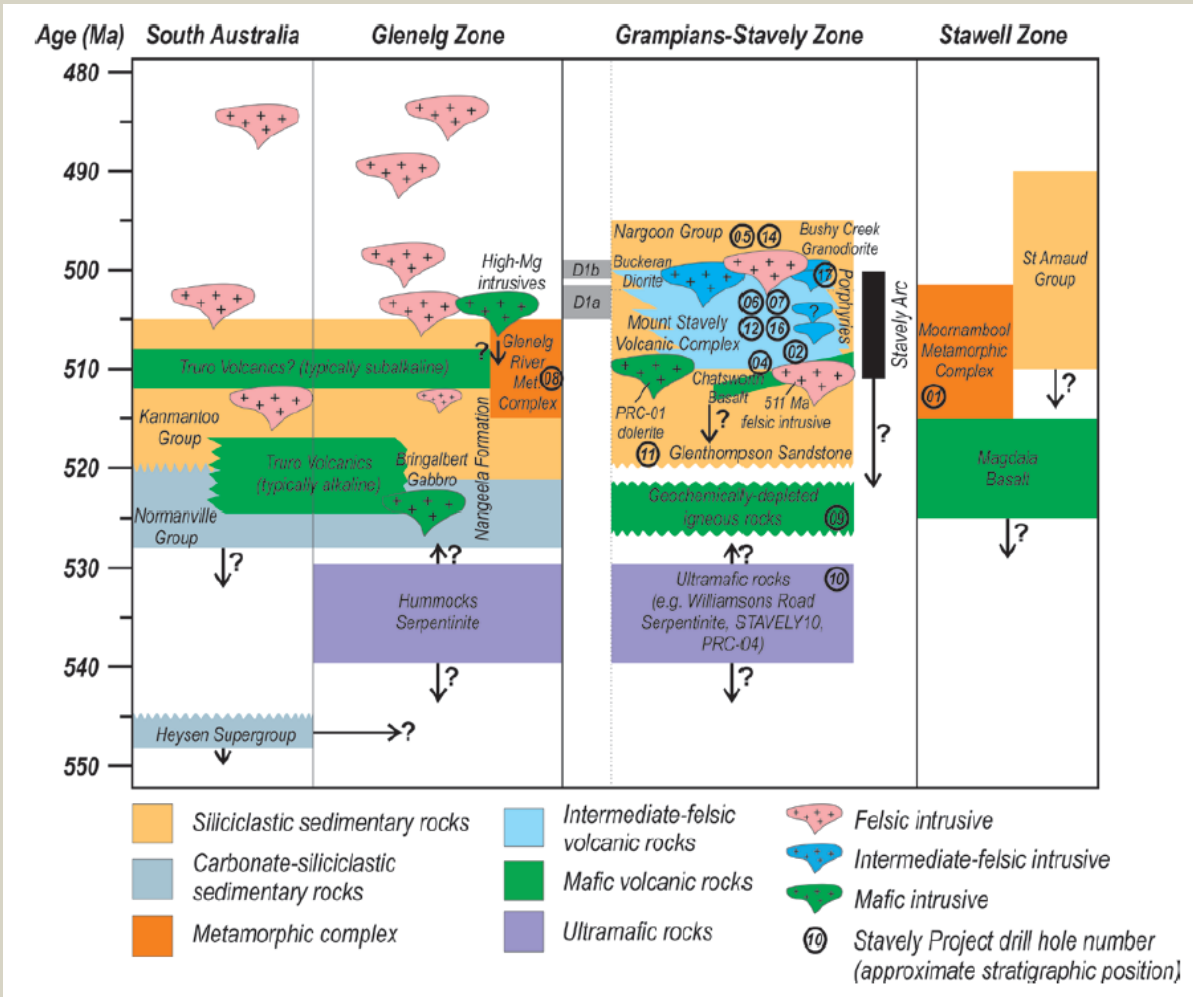


Figure 5. Summary stratigraphic column from South Australia eastwards to the Stawell Zone including the Grampians-Stavely Zone. Taken from *Regional geology and mineral systems of the Stavely Arc, western Victoria* (Geoscience Australia, 2018). Note the Bushy Creek Granodiorite as the youngest intrusive suite.

Recent dating of local prospect units at Thursday’s Gossan – the quartz diorite porphyry (QDP), and QDP host units – microdiorite and high-Ti microdiorite are demonstrating younger ages of intrusion than both the Bucheran Diorite / Bushy Creek Granodiorite Complex and also the ‘Victor’ porphyries which were the focus of previous exploration at Thursday’s Gossan in the 1990s and 2000s by Newcrest Mining Limited, North Limited and CRA (now Rio Tinto) (Figure 6).

Of interest is that there is a lone U/Pb date at 476Ma from an altered tonalite from drill hole SMD001. Also of note is a confirmed ~400Ma age for the prospect-scale LKD dyke commonly found in, or spatially related to the LAS. The LAS hosts syn-mineralisation late-porphyry D veins and the Devonian LKD dyke suggesting it is a very long-lived / reactivated structure hosting mineralisation / dyke intrusions dated 100Ma apart.

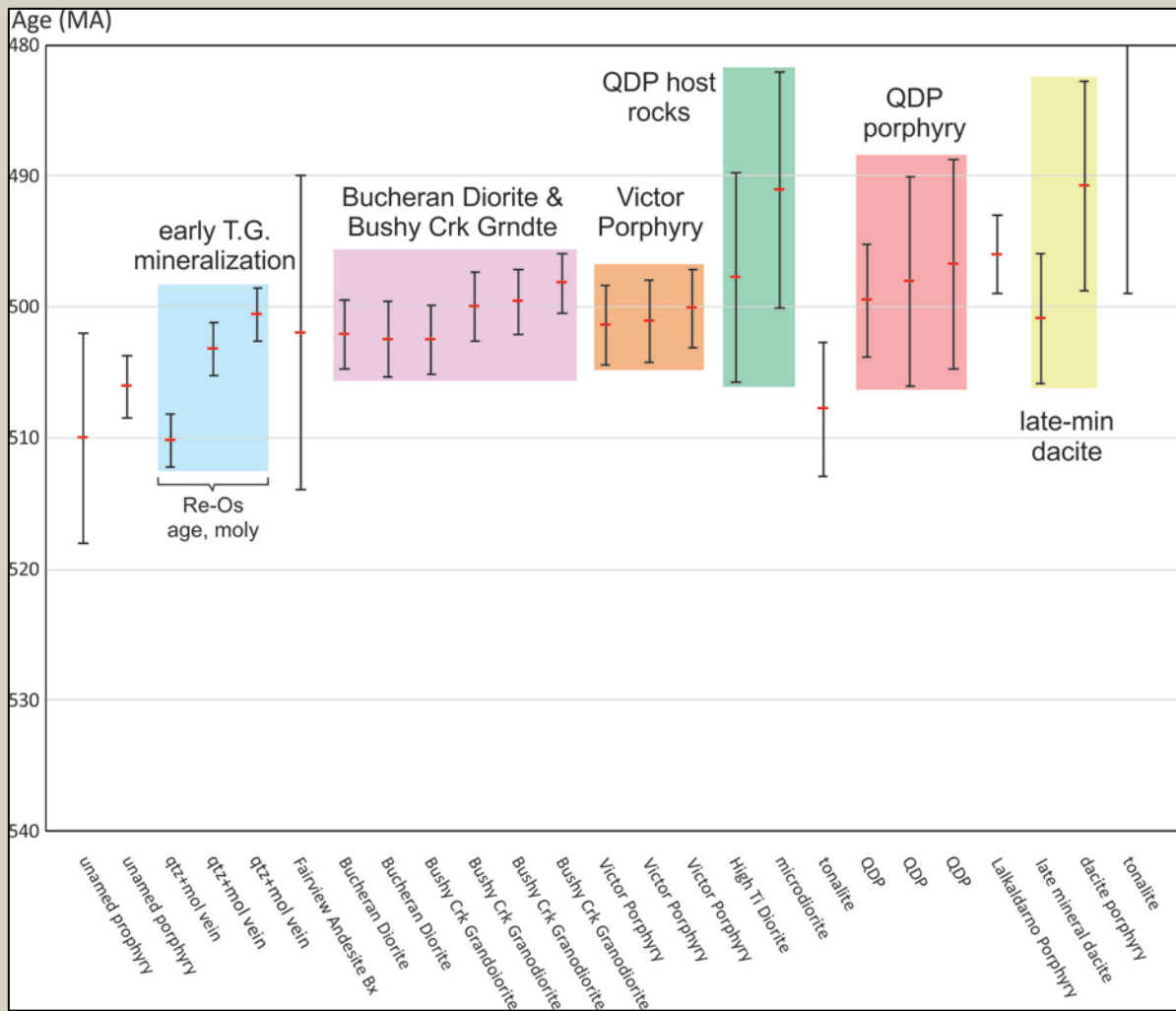


Figure 6. Recent age dating compared with previously reported dates. Unless otherwise stated, dates are U/Pb zircon dates (data from Geoscience Australia, Geologic Survey of Australia and Stavelly Minerals).

Lithogeochemistry

A large number of samples were selected across various lithologies observed at the Thursday’s Gossan prospect for whole-rock geochemical analysis. These analyses have allowed better classification of intrusive nomenclature and have provided useful insights as to the fertility or otherwise of various intrusive phases (Figure 7).

Using the methodology of Loucks (2014), it is apparent that the target QDP, microgranodiorite, tonalite, dacite porphyry and late mineral dacites are all highly prospective (Figure 8).

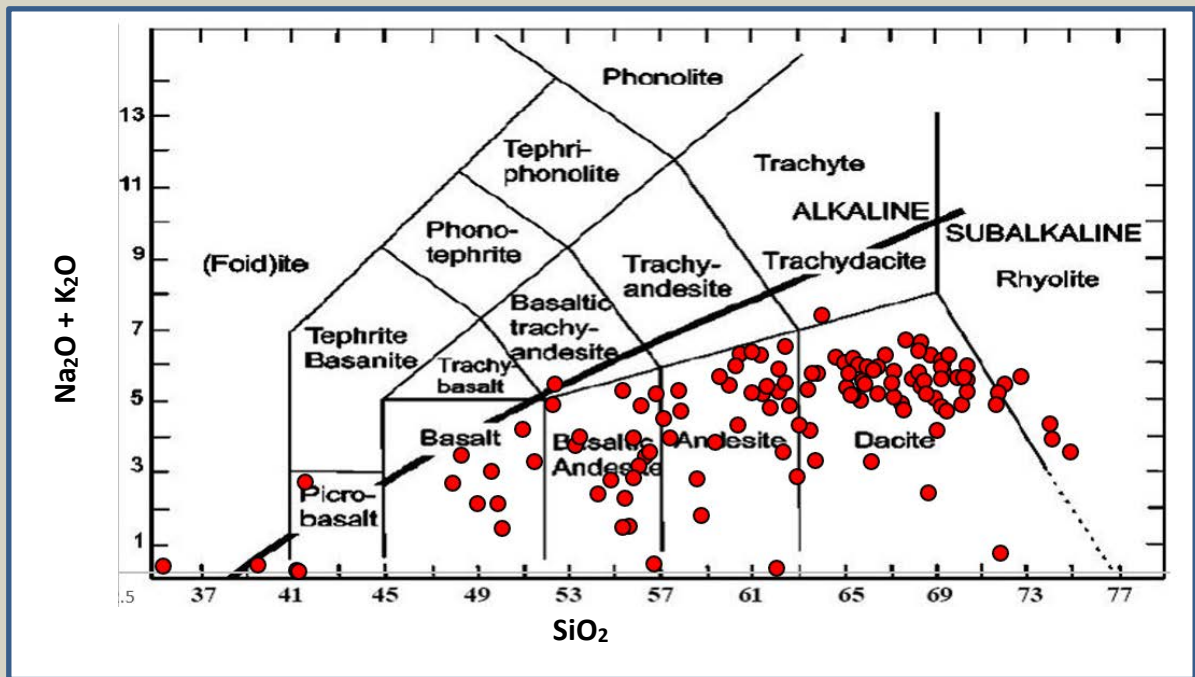


Figure 7. Rock type classifications using whole-rock geochemistry. Of note is the predominantly sub-alkalic composition with a few samples plotting just above the alkaline line.

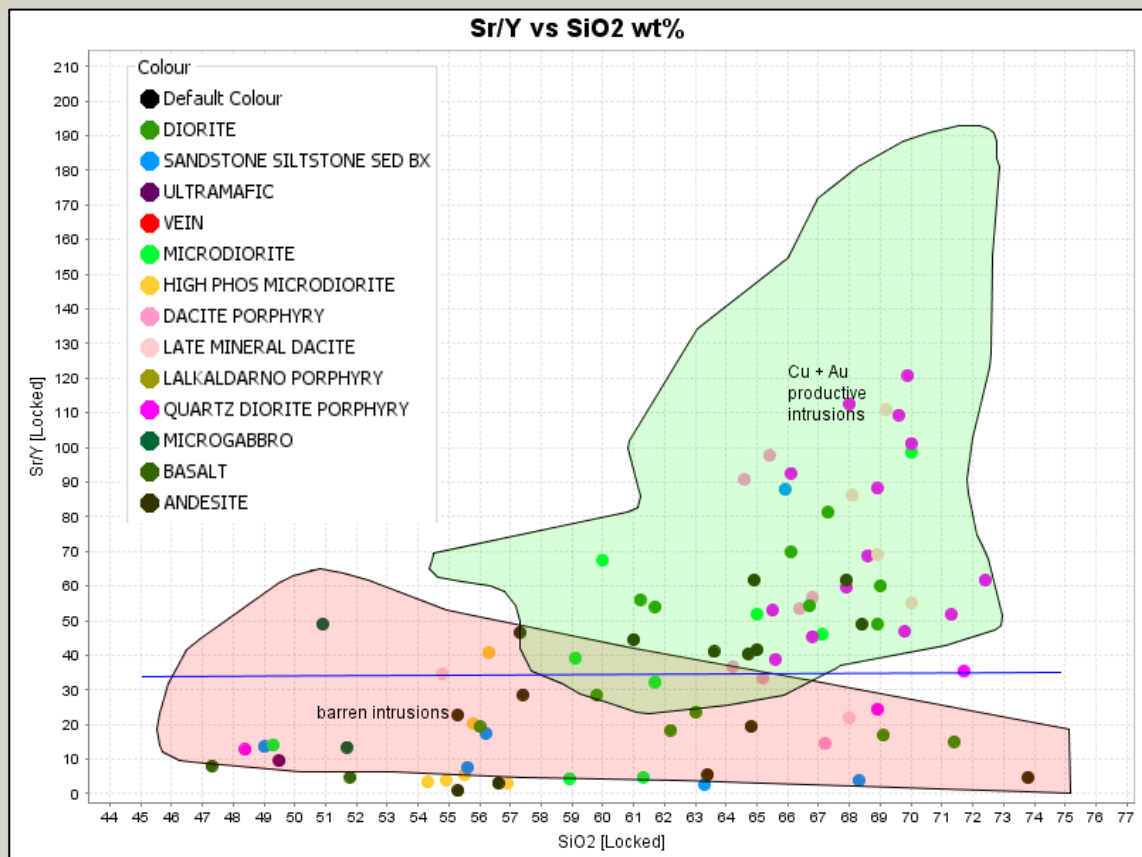


Figure 8. Fertility plot (after Loucks, 2014) of Thursday's Gossan intrusive phases.

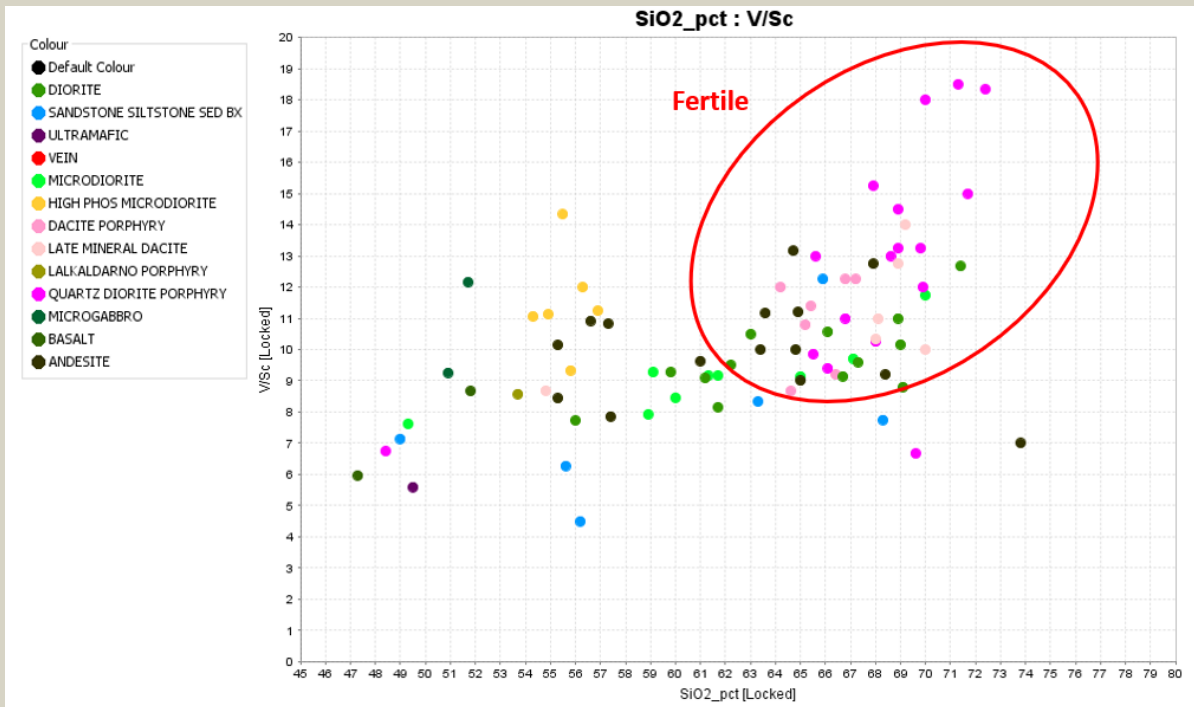


Figure 9. Fertility plot after Loucks (2014) of Thursday's Gossan intrusive phases.

On a V/Sc vs SiO₂ plot (Loucks, 2014) the Thursday's Gossan intrusive phases also plot within the highly fertile zone – any value >10 V/Sc (Figure 9) is considered prospective.

The vanadium - scandium ratio (V/Sc) has proven very useful in mapping out the intense core of the hydrothermal system at Thursday's Gossan. Figure 10 shows the V/Sc ratio in SMD017 in the interval of M vein development below the LAS and just east of the NSS. It is understood (interpreting Loucks' paper) that the high V is a result of a very hydrous melt that has allowed elevated levels of V to remain in the melt while Sc continues to be consumed by the fractionation of hornblende. It would appear the vanadium is coming in with the hydrothermal fluid and being incorporated in the magnetite in the porphyry M vein intervals. This makes the V/Sc ratio an excellent geochemical mapping tool for the mineralising hydrothermal system.

Mineralisation and Alteration at Thursday's Gossan

Stavelly Minerals contends that the early 'Victor' porphyries, the subject of previous exploration at Thursday's Gossan, represented a large, low-grade copper-only porphyry system. The extent of the alteration system related to these earlier porphyries was mapped out by Spencer (1996) as a zone some 4 kilometres by 1.5 kilometres with a long axis oriented in a NNW direction. It is possible that the much smaller zone of Intermediate Argillic and Sericitic alteration at the northern end of Spencer's map may be reflecting alteration related to the later porphyries responsible for the copper-gold mineralisation that has been the focus of Stavelly Minerals' exploration efforts (Figure 11).

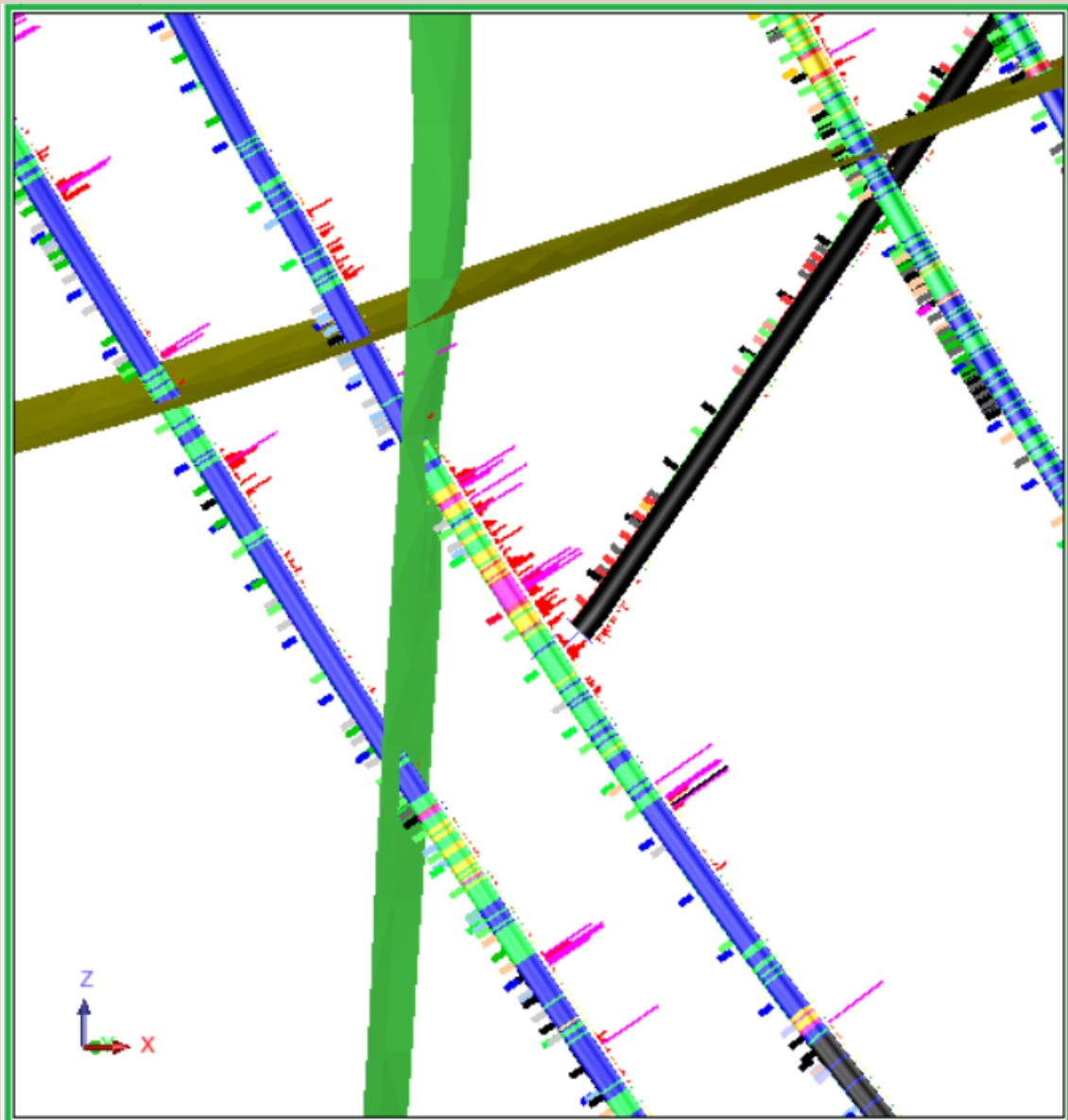


Figure 10. Surpac screen shot showing a X-section drill hole traces and the planes of the NSS (green) and the LAS (mustard). The drill hole traces are coloured to V/Sc ratio with increasing values shown as warmer colours (green>10, yellow>15 red>25, magenta>30). The bar graph on the right side of the drill trace is the magnetic susceptibility reading related to the porphyry M veins. Note how the V/Sc ratio correlates with the porphyry M vein interval in SMD017 below the LAS and just east of the NSS (centre of image, looking north).

An analogy to the 'early large low-grade copper-only porphyry followed by later, smaller copper-gold porphyries' hypothesis would be the Tajeel porphyry and the H14 / H15 porphyry complex at Reko Diq in Baluchistan, Pakistan. The Tajeel porphyry is a ~23Ma low-grade copper porphyry around which there are up to 20 smaller younger porphyries including the H14 / H15 complex at an age of ~12Ma. The H14 / H15 complex hosts 4,100 Mt at 0.5% copper and 0.29g/t gold (Perello et al, 2008).

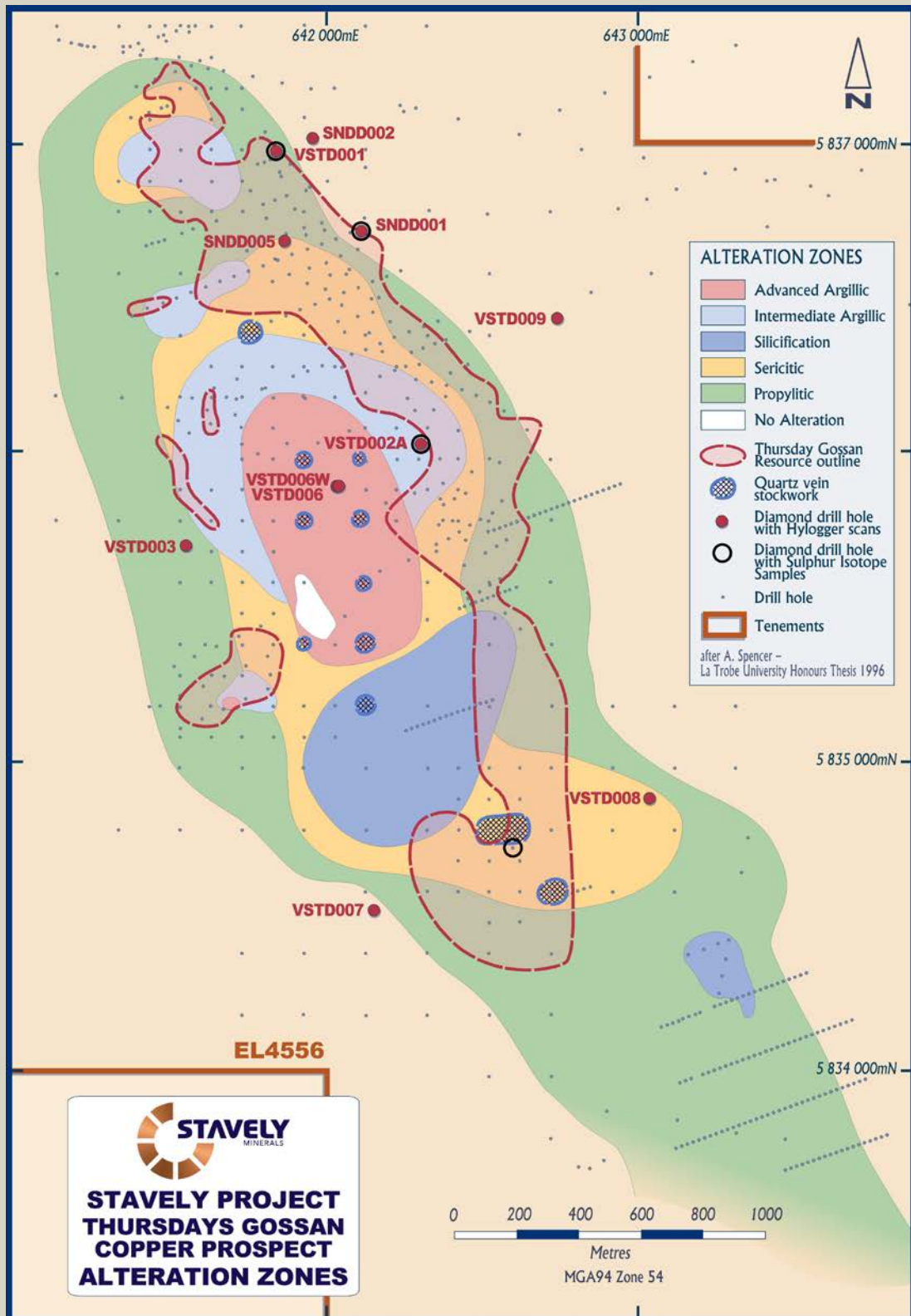


Figure 11. Large-scale alteration zonation associated with porphyry phase 1 – the early, large low-grade copper-only porphyry. Note the small zone of intermediate argillic and sericite alteration in the north – this may be associated with the later, smaller copper-gold porphyry Stavelly Minerals is targeting (after Spencer, 1996).

A critical recognition in the exploration targeting process was that the Inferred Mineral Resources (28 Mt @ 0.4% copper, see Stavelly Minerals’ 2018 Annual Report) within a

chalcocite-enriched blanket on the east and north-east margins of the larger porphyry alteration zones was not a product of secondary enrichment of low-grade disseminated porphyry copper mineralisation. In the core of the large, early copper-only porphyry in the vicinity of drill hole VSTD006, intense argillic alteration extends to at least 300m and all former copper associated with primary mineralisation has been stripped to at least that depth.

Rather, the near-surface copper (\pm gold and silver) mineralisation is developed on the surface expression of structurally-controlled late sulphide-rich porphyry D veins with strong copper-gold-silver mineralisation and was especially well developed in the northern portion of the Thursday's Gossan prospect (Figure 12).

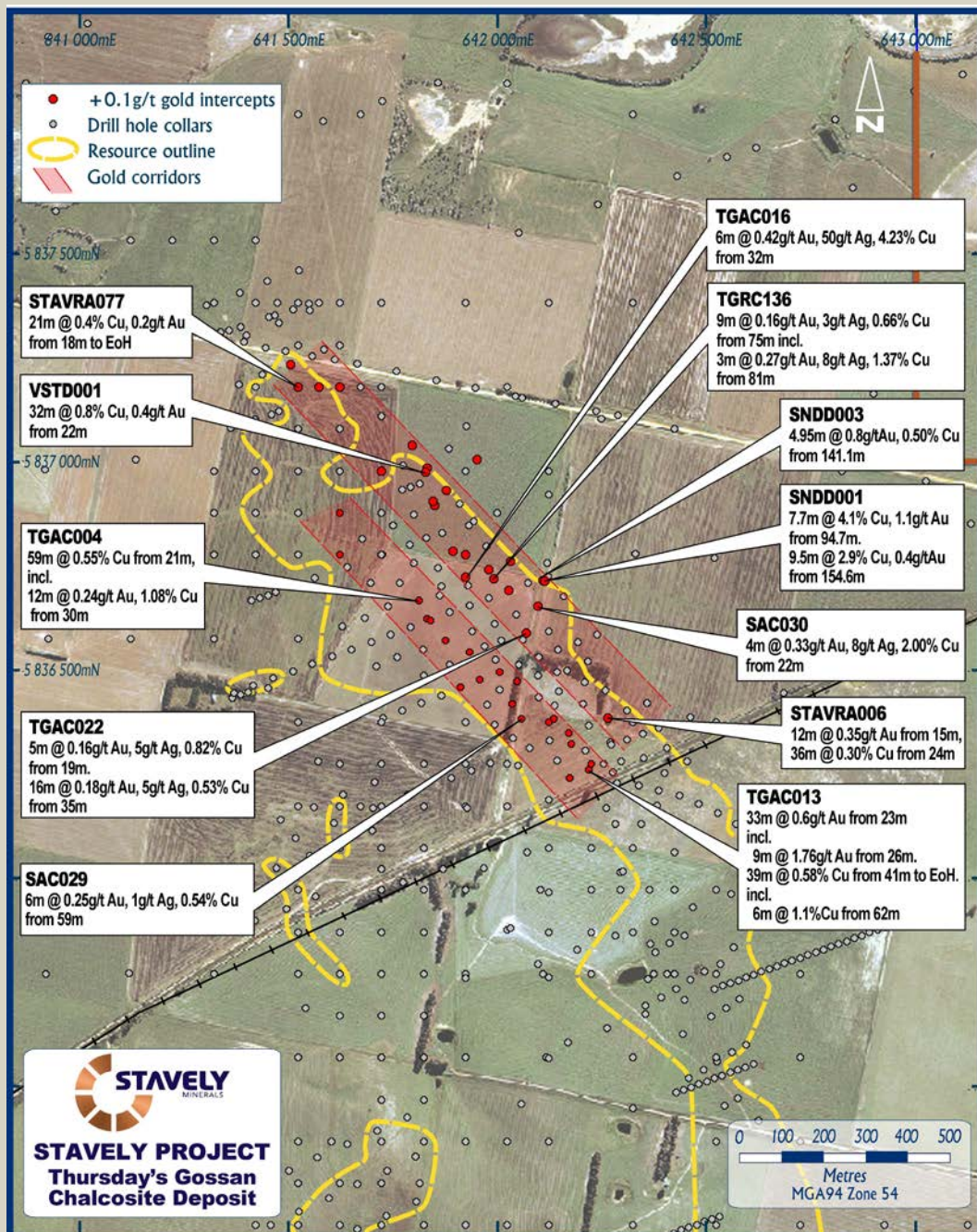


Figure 12. Parallel zones of high-grade copper-gold-silver mineralisation as the expression of sulphide-rich porphyry D veins as they approach surface.

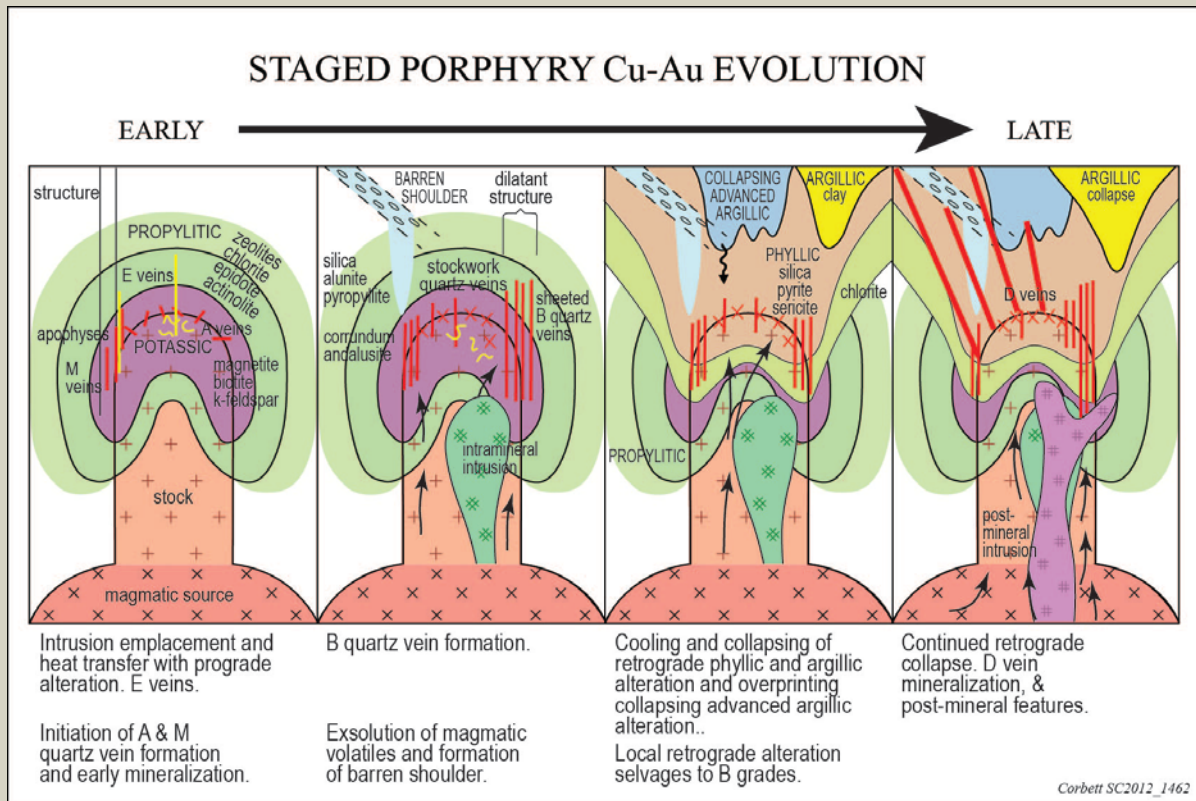


Figure 13. Early to Late stages in the evolution of a porphyry copper-gold hydrothermal system. The D veins in the Late Phase 4 were the initial target vectoring towards the porphyry at depth. In pursuing this target, the early A and M veins in Phase 1 were intercepted and are now being targeted by current drilling.

It was this realisation that initiated a drilling programme to follow these well-developed and high-grade late porphyry D veins down to their porphyry source (Phase 4 in Figure 13).

Initial RC results provided significant encouragement including:

- **24 metres at 0.64% copper and 1.2 g/t gold including:**
 - 14 metres at 0.82% copper and 1.99 g/t gold including
 - 1 metre at 0.84% copper and 22.2 g/t gold
- **29 metres at 0.53% copper and 0.30 g/t gold to end of hole (EoH), including**
 - 4 metres at 1.39% copper, 0.5 g/t gold and 55 g/t silver
- **25 metres at 0.52% copper and 0.37 g/t gold to EoH**
- **3 metres at 4.14% copper, 0.36 g/t gold and 59 g/t silver**
- **43 metres at 0.55% copper and 0.11 g/t gold**
- **28 metres at 0.59% copper and 0.19 g/t gold**
- **8 metres at 0.74% copper and 0.17 g/t gold**
- **25 metres at 0.30% copper and 0.29 g/t gold to EoH including**
 - 3 metres at 1.24% copper and 1.31 g/t gold
- **64 metres at 0.40% copper and 0.19g/t gold, including**
 - 29 metres at 0.53% copper and 0.3g/t gold to EoH
- **11 metres at 0.49% copper and 0.29g/t gold**

While many RC drill holes finished in mineralisation, diamond tails were drilled to extend the RC drill holes. These diamond tails also provided very significant encouragement including:

- **283 metres at 0.16% copper**
- **194 metres at 0.16% copper**
- **85 metres at 0.35% copper and 0.18g/t gold**
- **124 metres at 0.31% copper and 0.12g/t gold**
- **92 metres at 0.34% copper and 0.12g/t gold, including**
- **30 metres at 0.50% copper and 0.22g/t gold**

These results were considered extremely encouraging, especially in the context that the results were not associated with the potassic altered 'core' of the porphyry system and that even better grades, especially higher gold grades could be expected in the bornite copper sulphide dominated core to the system.

Structural Complications

In follow-up diamond drilling, broad intervals of intense porphyry M veins, often over widths of over 100m were being intercepted at shallow depths in drill holes SMD015, 016, 022, 023 and 025. It was recognised that the LAS was offsetting the mineralisation and the porphyry M veins were relocated below the LAS in drill holes SMD017 and SMD024. It is now thought that another low-angle structure (LAS2) has again offset the porphyry M veins in SMD017 and SMD024 and they were not as well developed in drill holes SMD026 and 028 testing beneath these porphyry M vein intercepts respectively.

An additional structural complication was recognised in a steeply (85 degrees) west dipping NSS that offset the western extent of porphyry M veins intercepted in SMD017 and SMD024. While the Cambrian (~500Ma) deformation related NW-SE compression orientation should have resulted in a sinistral sense of movement on the NSS (west side south), drill hole SMD032 testing the southern offset on the west side of the NSS failed to hit the QDP on the west side. Subsequent drill 'prospecting' on the west side of the NSS with drill hole pairs SMD035 / 036, SMD037 / 038 and SMD039 / 040 to the north intercepted the QDP with M veins in drill holes SMD035 / 036 and M veins and disseminated magnetite in andesite and sandstone in SMD037 / 038 below the LAS and west of the NSS. It is now believed that the NE-SW oriented Devonian compression has resulted in a net dextral (west side north) movement on the NSS.

SWIR Alteration Mineralogy Data

The distribution of alteration-related clay minerals demonstrates some ambiguity that is understandable given the interpreted multi-phase intrusion / porphyry alteration history. This multi-phase history is partially reflected in Photo 1 below from SMD023 above the LAS with the following alteration sequence:

1. Early prograde weak K-spar alteration of the groundmass
2. Retrograde sericite / pyrite overprint
3. Prograde early dark micaceous (EDM) vein
4. Prograde 'wormy' and diffuse porphyry A vein
5. Early 'wispy' magnetite-only M veins (similar to Cadia Ridgeway E1-A M veins)
6. Early quartz veins with magnetite margins ± magnetite in the centrelines (similar to Cadia Ridgeway E1-B porphyry M veins)

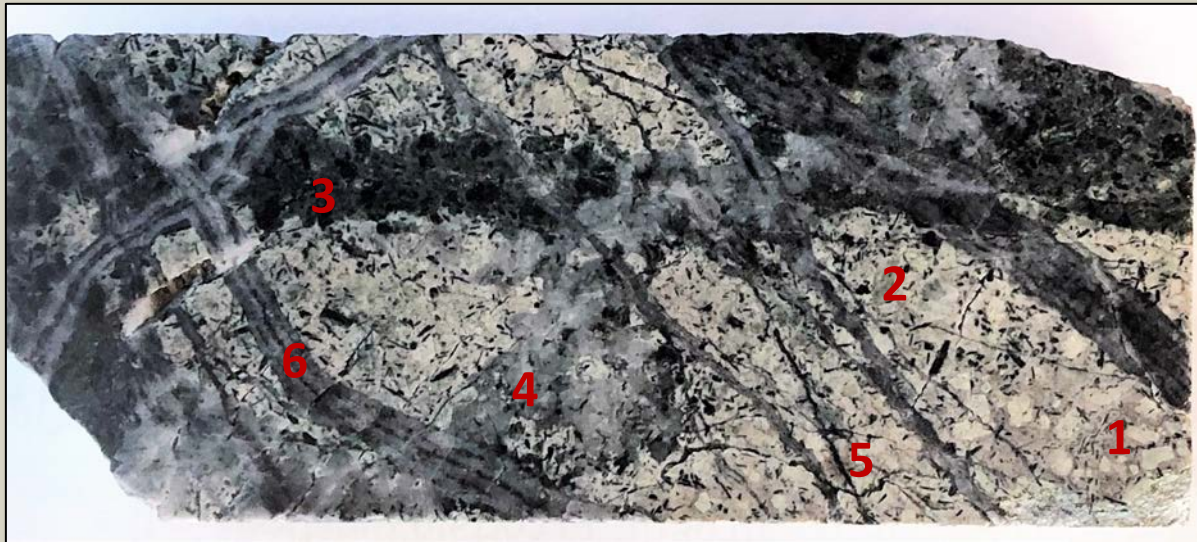


Photo 1: SMD023 – 120m drill depth showing multiple phases of prograde and retrograde alteration.

Many of the best mineralised porphyry systems display a multi-phase intrusive / mineralisation history, to the extent that it could be considered a requisite attribute for a well mineralised system.

It is expected that if the alteration / mineralisation sequence were continued, the laminated porphyry M veins identified in SMD017 below the LAS and east of the NSS would be the next phase and are considered similar to Wilson's E2 laminated M veins at Cadia Ridgeway. The distribution of the E2 veins at Ridgeway correlate with the >0.2g/t gold outline for the ore zone.

Of the porphyry M veins intercepted to date at Thursday's Gossan, almost all are considered to have formed at too low a temperature to have hosted copper sulphide mineralisation (Corbett, 2018). However, as predicted by Dr Corbett in his June 2018 report (available on the Stavelly Minerals' website), as the temperature of formation for the porphyry M veins increases, we should begin to see intergrown chalcopyrite with the magnetite in the porphyry M veins and as temperature increases further, we should start to see bornite as the dominant copper sulphide in the M veins.

Consistent with Dr Corbett's prediction, drill hole SMD024 displays M veins that host intergrown chalcopyrite. Of note is that the M vein density is materially less well-developed in this interval and it is interpreted that the dominantly mudstone host is more ductile and a less favourable host for brittle M vein development. Nonetheless, the interval hosts 70m at 0.22% copper and is the best example to date of a hotter manifestation of the porphyry M veins.

This recognition has focussed drill targeting to seek the QDP and host intrusions that have potential for higher M vein density with M veins formed in hotter conditions with abundant bornite. It is expected that the gold grades will materially increase with the appearance of appreciable quantities of bornite given gold's affinity with bornite. Drilling is targeting these M veins at depth on the west side of the NSS as shown in the composite section in Figure 3. The section is constructed with drill holes SMD015, 016, 017 etc on the east side and SMD025, 035, 036 etc. on the west side to account for the dextral offset on the NSS.

Of particular interest is the relationship between features apparent in the SWIR spectral data that seems to confirm this temperature-related appearance of copper sulphides in the porphyry M veins in SMD024. The chlorite composition calculated from the SWIR spectra indicates that the more iron-rich chlorites correlate with most of the porphyry M vein intervals intercepted to date. As per Figure 14, the well-developed porphyry M vein interval in SMD017 coincides with longer wavelength absorption features of iron-rich chlorites and, in Figure 15, also coincides with low-crystallinity Illite. Both these features are interpreted to reflect a lower temperature of formation than would be conducive for copper sulphide precipitation.

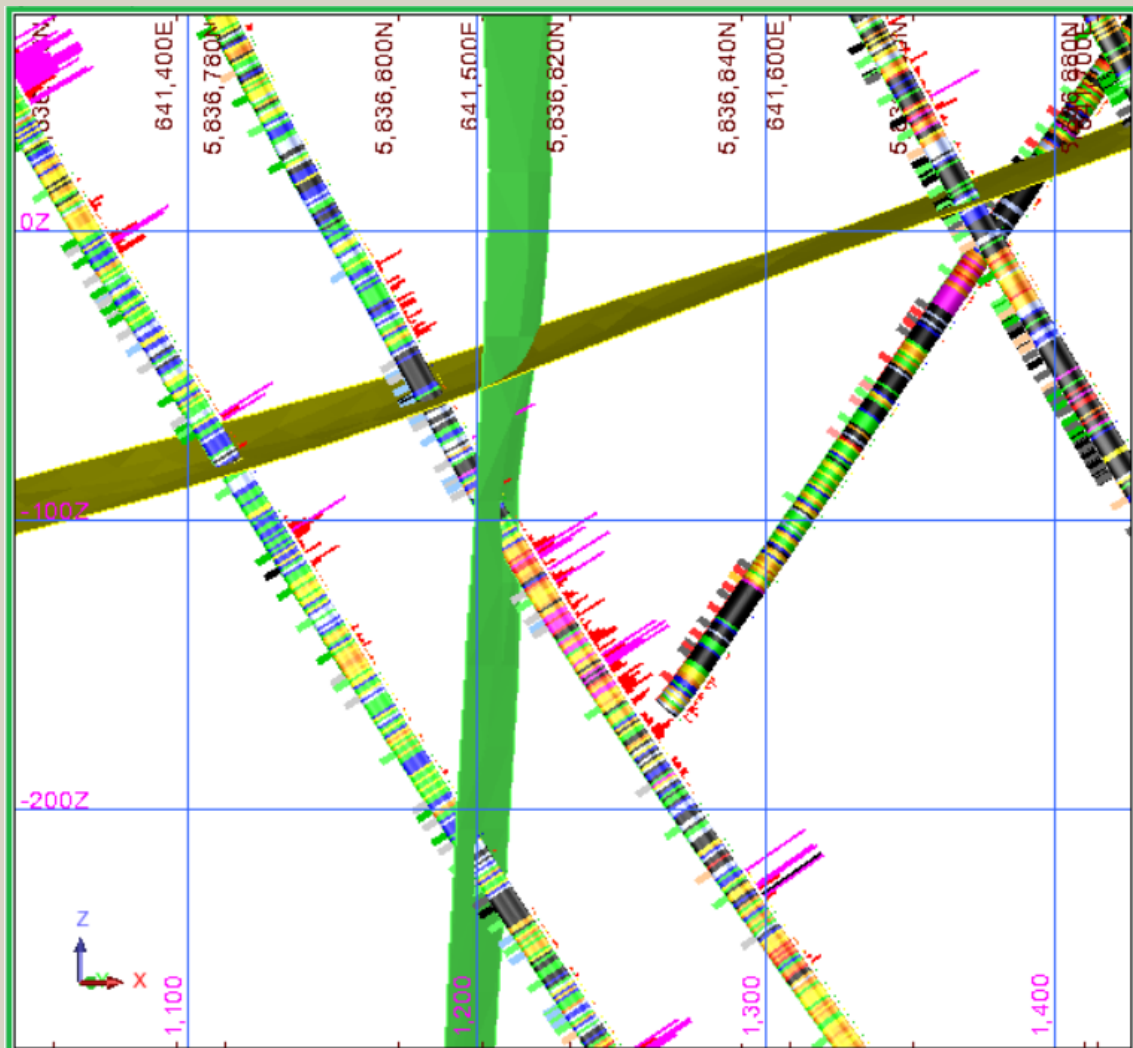


Figure 14. Surpac screen shot showing a X-section drill hole traces and the planes of the NSS (green) and the LAS (mustard). The drill hole traces are coloured to the chlorite adsorption wavelength with higher wavelengths as warmer colours (yellow > 2251nm, magenta > 2254.6). The bar graph on the right side of the drill trace is the magnetic susceptibility reading related to the porphyry M veins. Note how the longer wavelength absorption feature for chlorite, the more iron-rich chlorites, correlates with the porphyry M vein interval in SMD017 below the LAS and just east of the NSS (centre of image, looking north).

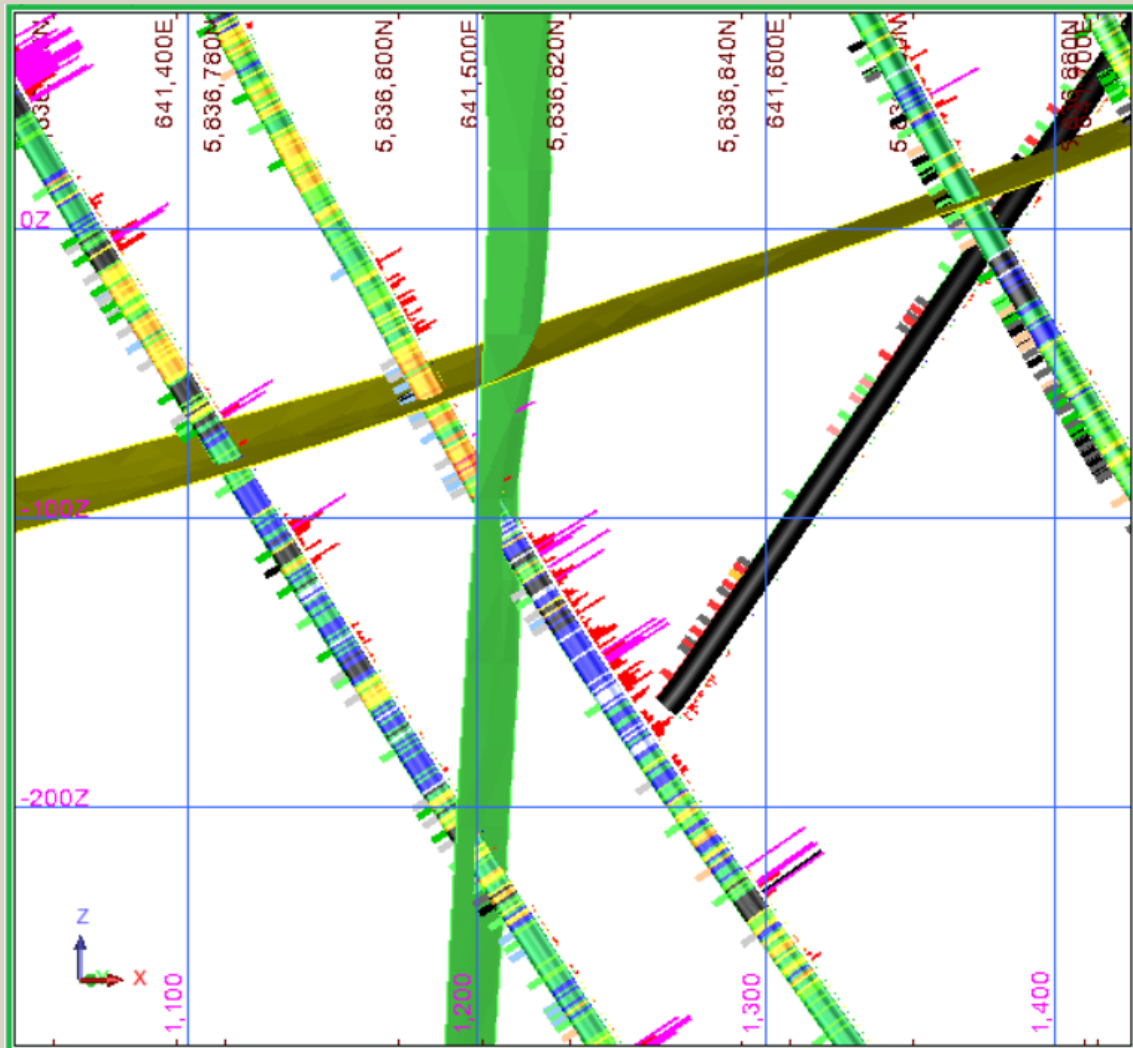


Figure 15. Surpac screen shot showing a X-section with drill hole traces and the planes of the NSS (green) and the LAS (mustard). The drill hole traces are coloured to the illite crystallinity with higher crystallinity as warmer colours (blue < 0.75). The bar graph on the right side of the drill trace is the magnetic susceptibility reading related to the porphyry M veins. Note how the lower crystallinity illite, the cooler colours, correlates with the porphyry M vein interval in SMD017 below the LAS and just east of the NSS (centre of image, looking north).

Of particular note is that the M vein interval in SMD024 that does host intergrown chalcopyrite also displays a chlorite absorption feature that has shifted towards a more magnesium-rich chlorite and the illite crystallinity also increases – both features are interpreted as being consistent with a higher temperature of formation more conducive to copper sulphide (chalcopyrite) precipitation.

The white mica absorption wavelengths provide ambiguous results in the porphyry M vein intervals in SMD015 in particular, potentially due to the large volumes of veins being greater than the remaining altered host QDP. Otherwise, there does appear to be a shift to shorter wavelengths from SMD016 above the LAS to SMD017 below the LAS and also from that section to the north where the white mica absorption wavelengths shorten appreciably in SMD023 above the LAS and SMD024 below the LAS. This shift to shorter absorption wavelengths is likewise interpreted to be reflecting greater proximity to the magmatic source.

Sulphur Isotope Results

Determination of sulphur isotope data can be a useful vectoring tool for highly oxidised porphyry copper-gold mineralisation. At the Cadia Ridgeway copper-gold porphyry deposit, the -3‰ δ34S sulphur contour correlates very well with the ore zone (Figure 16).

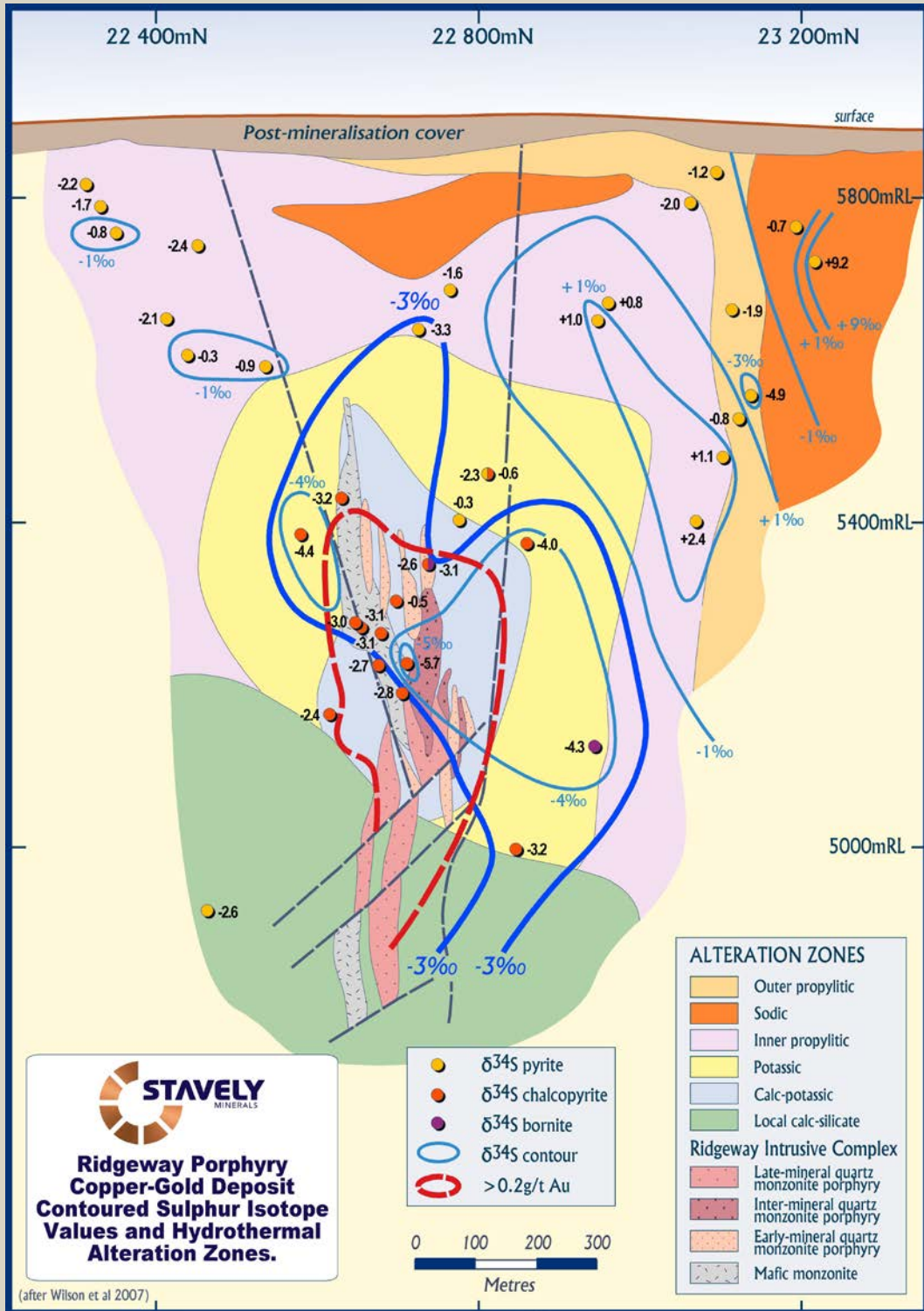


Figure 16. δ34S sulphur contours for the Cadia Ridgeway copper-gold porphyry deposit. (From Wilson, 2007).

The lighter sulphur isotope results are taken to reflect the degree of oxidation of the magmatic fluids and relates to their capacity to transport copper and gold to the mineralisation location. The progression from heavier isotopes transitioning from slightly positive to mildly negative $\delta^{34}\text{S}$ sulphur results in distal mineralisation positions, towards more strongly negative results reflecting lighter isotopes as the samples are taken from more proximal mineralisation locations is demonstrated by a number of notable copper-gold porphyry deposits in eastern Australia, British Columbia, and Alaska, including the Cadia Valley deposits (Wilson, 2007), E26 at North Parkes (Lickfold, 2002), Mt Polley and Afton (Deyell and Tosdale, 2004).

Some 220 $\delta^{34}\text{S}$ sulphur samples have been determined at Thursday's Gossan with:

Max	7.35‰
Min	-37.69
Mean	-1.87
Standard Deviation	± 4.15

Of which, 65 samples returned $\delta^{34}\text{S}$ sulphur isotope values less than -3.0‰ – the value that most closely maps the ore zone at Cadia Ridgeway.

Given that samples from Thursday's Gossan are not from the potassic alteration zone and the predicted high-grade mineralised zone, it could be expected that even lighter isotopic values would be present within that zone. Consequently, it would appear that the magma / fluids responsible for the mineralisation at Thursday's Gossan are notably strongly oxidised relative to known examples of copper-gold porphyries.

The distribution of the lighter sulphur isotopes is broadly observed in two locations:

1. In association with high-sulphidation style chalcopyrite – bornite – covellite – chalcocite mineralisation located proximal to the serpentinite contact or at depth
2. In close proximity to the margins of the quartz diorite porphyry and / or the microdiorite porphyries

The QDP and the microdiorites are the main hosts for the porphyry M veining seen to date. The interpretation is that the QDP and microdiorites are early intrusive phases coeval with the productive mineralising porphyry intrusive source at depth. It is inferred that the fluids responsible for the porphyry M veins have ascended along the margins of the QDP and microdiorite.

Evidence that the QDP is an early coeval unit with the causative porphyry being at depth is shown in Photo 2 showing the QDP hosting aplite vein-dykes which in places morph into porphyry A-M veins – all considered to be located at the top of the porphyry system.

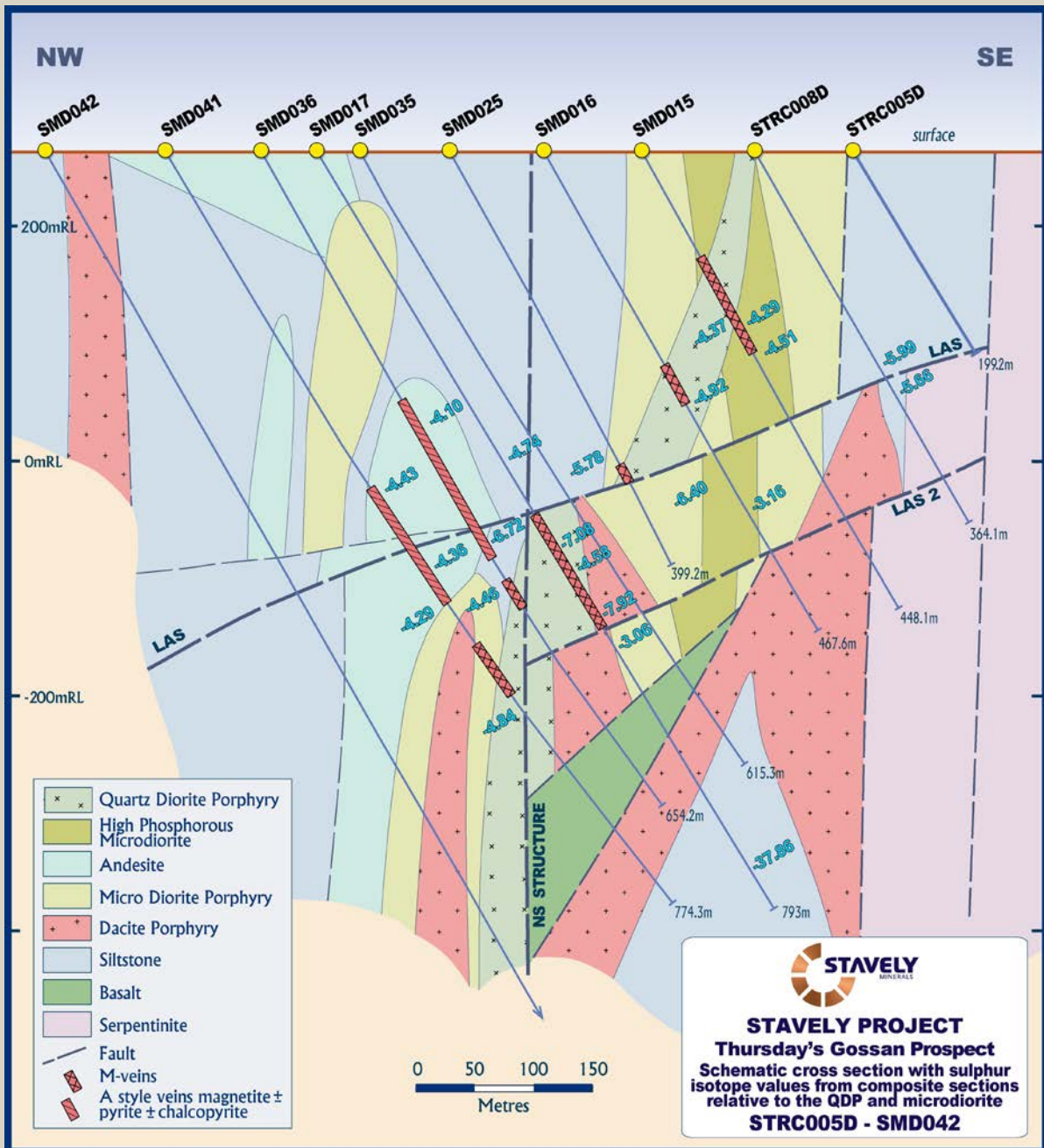


Figure 17. $\delta^{34}\text{S}$ sulphur results plotted on the composite section of Figure 3. The $\delta^{34}\text{S}$ sulphur results are from a number of adjacent sections but show the close spatial relationship to 1) in the east near the serpentinite a high-sulphidation style of copper-gold mineralisation, and 2) in close proximity with the Quartz Diorite Porphyry and microdiorites.



Photo 2. Aplite vein dykes and porphyry A-M veins hosted by the QDP in drill hole SMD041

Four anhydrite / pyrite pair samples were taken to evaluate the possible temperature of formation. As per Figure 18, the pairs plot around the 300°C range, similar to Oyu Tolgoi but at a lower temperature to other notable copper-gold deposits. This is consistent with our objective of seeking out the hotter part of the hydrothermal system at Thursday’s Gossan.

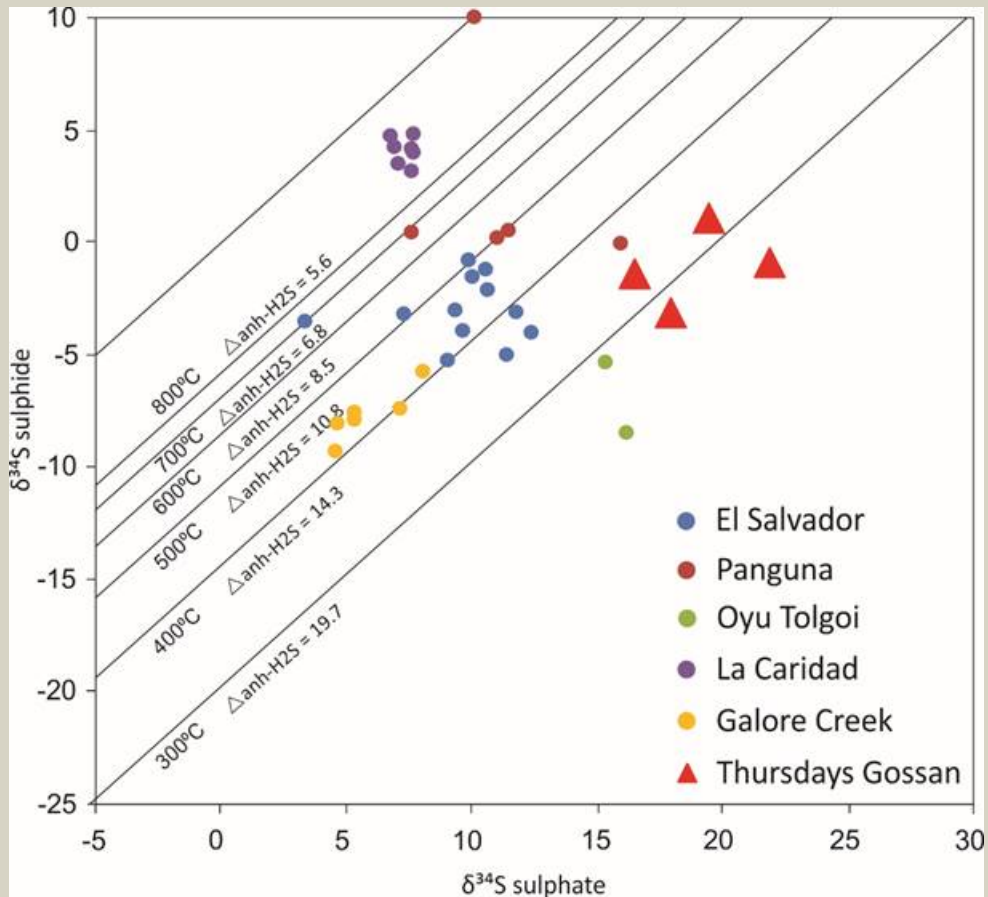


Figure 18. d34 sulphide vs sulphate plot for pyrite / anhydrite pairs.

Drilling continues with drill hole SMD042 in-progress drilling under quartz-magnetite-actinolite veining ± chalcopyrite in SMD041.

Yours sincerely,



Chris Cairns
Managing Director

The information in this report that relates to Exploration Targets, Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Mr Chris Cairns, a Competent Person who is a Member of the Australian Institute of Geoscientists. Mr Cairns is a full-time employee of the Company. Mr Cairns is the Managing Director of Stavely Minerals Limited, is a substantial shareholder of the Company and is an option holder of the Company. Mr Cairns has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Cairns consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

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Thursday's Gossan Prospect – Collar Table

MGA 94 zone 54							
Hole id	Hole Type	East	North	Dip/ Azimuth	RL (m)	Total Depth (m)	Comments
SMD017	DD	641325	5836750	-60/070	262	793.6	
SMD018	DD	641670	5836772	-60/070	264	96.3	Hole failed did not reach target depth
SMD019	DD	641620	5836755	-60/070	264	477.5	
SMD020	DD	641570	5836740	-60/070	264	465.4	
SMD021	DD	641410	5836640	-60/070	264	534.9	
SMD022	DD	641560	5836915	-60/070	264	406.2	
SMD023	DD	641490	5836895	-60/070	264	330.6	
SMD024	DD	641315	5836835	-60/070	264	509.6	
SMD025	DD	641390	5836940	-60/070	264	399.2	
SMD026	DD	641225	5836710	-60/070	264	796	
SMD028	DD	641220	5836800	-60/070	264	777.3	
SMD029/ SMD029W	DD	641164	5836363	-60/070	264	384/ 837.5	Hole wedged due to drilling problems in original hole
SMD030	DD	641315	5837185	-60/070	264	109.4	Hole failed did not reach target depth
SMD031	DD	641455	5837235	-60/250	264	409.5	Redrill of SMD030 from opposite direction
SMD032	DD	641330	5836665	-60/070	264	582.8	
SMD033	DD	641250	5836635	-60/070	264	121.2	Drilling issues resulted in hole being abandoned
SMD034	DD	641250	5836635	-60/070	264	150	Redrill of SMD033, hole failed did not reach target depth
SMD035	DD	641300	5836910	-60/070	264	615.3	
SMD036	DD	641220	5836880	-60/070	264	654.2	
SMD037	DD	641295	5836985	-60/070	264	485.9	
SMD038	DD	641220	5836960	-60/070	264	631	
SMD039	DD	641290	5837065	-60/070	264	471.4	
SMD040	DD	641215	5837040	-60/070	264	570.4	
SMD041	DD	641140	5836850	-60/070	264	774.3	
SMD042	DD	641044	5836815	-60/070	264	In progress	

JORC Code, 2012 Edition – Table 1

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<i>Nature and quality of sampling (eg 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.</i>	<p>Stavely Project</p> <p>Thursday's Gossan Prospect</p> <p>Stavely Minerals' RC Drilling</p> <p>Reverse Circulation (RC) percussion drilling was used to produce a 1m bulk sample (~25kg) which was collected in plastic bags and representative 1m split samples (12.5% or nominally 3kg) were collected using a cone splitter and placed in a calico bag. The cyclone was cleaned out with compressed air at the end of each hole and periodically during the drilling. The 1m split samples were submitted for analysis.</p> <p>Stavely Minerals' Diamond Drilling</p> <p>The diamond core for the entire hole was sampled. PQ quarter core and HQ half core was submitted for analysis. Sample intervals were based on lithology but in general were 1m. No intervals were less than 0.4m or greater than 1.2m.</p> <p>Historical Drilling</p> <p>Historical aircore hole STAVRA077 was drilled by North Limited in 1994 to a depth of 39m at the Thursday's Gossan prospect. 3m composite samples were analysed.</p> <p>Historical diamond drill hole VSTD001 was drilled by Newcrest in 2002 to a depth of 520.7m to target the porphyry core. 2m composite samples were taken to a depth of 62m and then 1m samples to eoh. The samples were analysed for Au, Ag, As, Bi, Cu, Mo, Pb, S and Zn.</p> <p>Historical aircore hole TGAC004 was drilled by Beaconsfield Gold Mines Pty Ltd in 2006 to a depth of 80m. 3m composite samples were taken for the entire hole.</p> <p>Historical diamond hole SNDD001 was drilled by Beaconsfield Gold Mines Pty Ltd in 2008 to a depth of 321.9m. No sampling was done for the first 21m. From 21m to 321.9m composite samples based on lithology were analysed for Au, Ag, Co, Cu, Ni, Pb and Zn.</p> <p>Historical aircore hole TGAC016 was drilled by Beaconsfield Gold Mines Pty Ltd in 2008 to a depth of 78m. Sampling was done at 1m intervals, apart from when sampling the oxide zone where 2m composite samples were collected.</p> <p>Historical reverse circulation holes TGRC110 and TGRC136 were drilled by BCD in 2009 to a depth of 78m and 84m respectively. 1m interval samples were taken for the entire length of the holes.</p>

Criteria	JORC Code explanation	Commentary
		<p>Historical aircore hole TGAC078 was drilled by BCD in 2009 to a depth of 59m. 2m composite samples were taken for the entire length of the hole.</p> <p>Historical aircore holes SAC029 and SAC030 were drilled by BCD in 2010 to a depth of 65m and 62m respectively. 1m interval samples were taken for the entire length of the holes.</p>
	<p><i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i></p>	<p>Stavely Project</p> <p>Thursday's Gossan Prospect</p> <p>Stavely Minerals' Diamond and RC Drilling</p> <p>Sample representivity was ensured by a combination of Company Procedures regarding quality control (QC) and quality assurance/ testing (QA). Certified standards and blanks were inserted into the assay batches.</p> <p>Historical Drilling</p> <p>No information available.</p>
	<p><i>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 (eg '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 (eg submarine nodules) may warrant disclosure of detailed information.</i></p>	<p>Stavely Project</p> <p>Thursday's Gossan Prospect</p> <p>Stavely Minerals' Diamond Drilling</p> <p>Drill sampling techniques are considered industry standard for the Stavely work programme.</p> <p>The diamond core for the entire hole has been sampled. PQ quarter core and HQ half core was submitted for analysis. Sample intervals were based on lithology but in general were 1m. No intervals were less than 0.3m or greater than 1.8m.</p> <p>The diamond drill samples were submitted to Australian Laboratory Services ("ALS") in Orange, NSW. Laboratory sample preparation involved:- sample crush to 70% < 2mm, riffle/rotary split off 1kg, pulverize to >85% passing 75 microns.</p> <p>Diamond core samples were analysed by ME-ICP61 – multi acid digest with HF and ICPAES and ICPMS and Au-AA23 – fire assay with AAS finish.</p> <p>Stavely Minerals' RC Drilling</p> <p>Drill sampling techniques are considered industry standard for the Stavely work programme.</p> <p>The 1m split samples were submitted to Australian Laboratory Services ("ALS") in Orange, NSW. Laboratory sample preparation involved:- sample crush to 70% < 2mm, riffle/rotary split off 1kg, pulverize to >85% passing 75 microns.</p> <p>The RC samples were analysed by ME-ICP61 – multi acid digest with HF and ICPAES and ICPMS and Au-AA23 – fire assay with AAS finish.</p> <p>Historical Drilling</p> <p>No sample preparation is available for the historical drilling.</p>

Criteria	JORC Code explanation	Commentary
<p><i>Drilling techniques</i></p>	<p><i>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is orientated and if so, by what method, etc).</i></p>	<p>Stavelly Project</p> <p>Thursday's Gossan Prospect</p> <p>Stavelly Minerals' Diamond Drilling</p> <p>Diamond drill holes were drilled by Titeline Drilling in 2014 (SMD001, SMD003 and SMD004) and 2017 (SMD006, SMD007, SMD008 and SMD012). Diamond tails were completed on drill holes STRC001D, STRC002D, STRC004D, STRC005D, STRC007D, STRC008D, STRC019D and STRC020D. Holes SMD013, SMD014 and SMD015 were drilled in 2017 by Titeline Drilling. Holes SMD016, SMD017, SMD018, SMD019, SMD020, SMD021, SMD022, SMD023, SMD024, SMD025, SMD026, SMD028, SMD029, SMD029W, SMD030, SMD031, SMD032, SMD033, SMD034, SMD035, SMD036, SMD037, SMD038, SMD039, SMD040 and SMD041 were drilled in 2018 by Titeline Drilling. For the diamond holes, drilling was used to produce drill core with a diameter of 85mm (PQ) from surface until the ground was sufficiently consolidated and then core with a diameter of 63.5mm (HQ) was returned. For the diamond tails, drilling was used to produce drill core with a diameter of 63.5mm (HQ).</p> <p>Diamond drilling was standard tube. Diamond core was orientated by the Reflex ACT III core orientation tool.</p> <p>SMD003 was orientated at -60° towards azimuth 060° to a depth of 522.3m.</p> <p>SMD006, SMD007 and SMD008 were orientated at -60° towards azimuth 070° to depths of 353.3m, 355.6m and 240m respectively. SMD012 was orientated at -60° towards azimuth 065° to a depth of 206.6m.</p> <p>SMD013, SMD014 and SMD015 were orientated at -60° towards azimuth 070° to depths of 573.9m, 738.9m and 448.1m respectively. SMD016 was orientated at -60° towards azimuth 080° to a depth of 467.6m.</p> <p>The dips, azimuths and depths of holes SMD017 to SMD026, inclusive, and SMD028 to SMD041, inclusive, are provided in the Thursday's Gossan Prospect Collar Table.</p> <p>Stavelly Minerals' RC Drilling</p> <p>The RC holes were drilled by Budd Exploration Drilling P/L. The RC percussion drilling was conducted using a UDR 1000 truck mounted rig with onboard air. A Sullair 350/1150 auxiliary compressor was used. 4" RC rods were used and 5¼" to 5¾" drill bits. A Reflex Digital Ezy-Trac survey camera was used.</p> <p>The holes were orientated at -60° towards azimuth 070°.</p> <p>Historical Drilling</p> <p>Historical hole STAVRA077 is an aircore hole drilled by North Limited in 1994. The hole was drilled vertically. No other drilling details are known.</p>

Criteria	JORC Code explanation	Commentary
		<p>Historical hole VSTD001 was drilled by Newcrest in 2002 using a diamond drill rig. The drilling was conducted by Silver City Drilling. The first 62m were drilled by aircore. HQ core was drilled between 62m and 255.7m and NQ core between 255.7m and 520.7m. The hole was oriented at -50° towards azimuth 256°.</p> <p>Historical aircore hole TGAC004 was drilled by Beaconsfield Gold Mines Pty Ltd in 2006 to a depth of 80m. The drilling was conducted by Blacklaws Drilling Services using a truck mounted Wallis Mantis rig with a 450cfm/200psi compressor.</p> <p>Historical hole SNDD001 was drilled by Beaconsfield Gold Mines Pty Ltd in 2008 using a diamond drill rig. The drilling was conducted by Silver City Drilling with a Mantis 700 rig. The hole was oriented at -50° towards magnetic azimuth 265°. HQ triple tube was drilled from 0m to 56.6m and then NQ to 321.9m.</p> <p>Historical aircore hole TGAC016 was drilled by Beaconsfield Gold Mines Pty Ltd in 2008 to a depth of 78m. The hole was drilled vertically by Wallis Drilling.</p> <p>Historical reverse circulation holes TGRC110 and TGRC136 were drilled by BCD in 2009 to a depth of 78m and 84m respectively. Drilling was conducted by Budd Exploration Drilling P/L using a Universal drill rig. TGRC110 was oriented at -60° towards magnetic azimuth 349°. TGRC136 was oriented at -60° towards magnetic azimuth 064°.</p> <p>Historical aircore hole TGAC078 was drilled by BCD in 2009 to a depth of 59m. Drilling was conducted by Budd Exploration Drilling P/L using a Universal drill rig. TGAC078 was oriented at -50° towards magnetic azimuth 231°.</p> <p>Historical aircore holes SAC029 and SAC030 were drilled by BCD in 2010 to a depth on 65m and 62m respectively. The holes were drilled vertically by Blacklaws Drilling Services.</p>
<p><i>Drill sample recovery</i></p>	<p><i>Method of recording and assessing core and chip sample recoveries and results assessed.</i></p>	<p>Stavelly Project</p> <p>Thursday's Gossan Prospect</p> <p>Stavelly Minerals' Diamond Drilling</p> <p>Diamond core recoveries were logged and recorded in the database.</p> <p>Core recovery for SMD001, SMD003 and SMD007 was good. In general the core recovery for SMD012 was good but there were several intervals where core was lost or there was poor core recovery.</p> <p>Stavelly Minerals' RC Drilling</p> <p>RC sample recovery was good. Booster air pressure was used to keep the samples dry despite the hole producing a significant quantity of water. RC sample recovery was</p>

Criteria	JORC Code explanation	Commentary
		<p>visually checked during drilling for moisture or contamination.</p> <p>Historical Drilling</p> <p>Diamond core recoveries were logged and recorded for historical drill hole SNDD001.</p>
	<p><i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i></p>	<p>Stavely Project</p> <p>Thursday's Gossan Prospect</p> <p>Stavely Minerals' Diamond Drilling</p> <p>Diamond core is reconstructed into continuous runs on an angle iron cradle for orientation marking. Depths are checked against the depth given on the core blocks and rod counts are routinely carried out by the driller.</p> <p>Stavely Minerals' RC Drilling</p> <p>The RC samples are collected by plastic bag directly from the rig-mounted cyclone and laid directly on the ground in rows of 10. The drill cyclone and sample buckets are cleaned between rod-changes and after each hole to minimise down-hole and/or cross contamination.</p> <p>Historical Drilling</p> <p>No details are available for the historical drill holes.</p>
	<p><i>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.</i></p>	<p>Stavely Project</p> <p>Thursday's Gossan Prospect</p> <p>Stavely Minerals' Diamond Drilling</p> <p>Not an issue relevant to diamond drilling.</p> <p>Stavely Minerals' RC Drilling</p> <p>No analysis has been undertaken as yet regarding whether sample bias may have occurred due to preferential loss/gain of fine/coarse material and is not considered to have a material effect given the good sample recovery.</p> <p>Historical Drilling</p> <p>No details are available for the historical drill holes.</p>
Logging	<p><i>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.</i></p>	<p>Stavely Project</p> <p>Thursday's Gossan Prospect</p> <p>Stavely Minerals' Diamond and RC Drilling</p> <p>Geological logging of samples followed Company and industry common practice. Qualitative logging of samples including, but not limited to, lithology, mineralogy, alteration, veining and weathering. Diamond core logging included additional fields such as structure and geotechnical parameters.</p> <p>Magnetic Susceptibility measurements were taken for each 1m RC and diamond core interval.</p> <p>Historical drilling</p> <p>All holes were geologically logged.</p>

Criteria	JORC Code explanation	Commentary
	<i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i>	<p>Stavely Project</p> <p>Thursday's Gossan Prospect</p> <p>Stavely Minerals' Diamond Drilling</p> <p>All logging is quantitative, based on visual field estimates. Systematic photography of the diamond core in the wet and dry form was completed.</p> <p>Stavely Minerals' RC Drilling</p> <p>All logging is quantitative, based on visual field estimates. Chip trays with representative 1m RC samples were collected and photographed then stored for future reference.</p> <p>Historical Drilling</p> <p>All logging is quantitative, based on visual field estimates.</p>
	<i>The total length and percentage of the relevant intersections logged.</i>	<p>Stavely Project</p> <p>Thursday's Gossan Prospect</p> <p>Stavely Minerals' Diamond Drilling</p> <p>Detailed diamond core logging, with digital capture, was conducted for 100% of the core by Stavely's on-site geologist at the Company's core shed near Glenthompson.</p> <p>Stavely Minerals' RC Drilling</p> <p>All RC chip samples were geologically logged by Stavely Minerals' on-site geologist on a 1m basis, with digital capture in the field.</p> <p>Historical Drilling</p> <p>Historical holes have been logged in their entirety.</p>
<i>Sub-sampling techniques and sample preparation</i>	<i>If core, whether cut or sawn and whether quarter, half or all core taken.</i>	<p>Stavely Project</p> <p>Thursday's Gossan Prospect</p> <p>Stavely Minerals' Diamond Drilling</p> <p>Quarter core for the PQ diameter diamond core and half core for the HQ diameter core was sampled on site using a core saw.</p> <p>Historical Drilling</p> <p>For historical hole SNDD001 half core was sampled. No details are given for VSTD001.</p>
	<i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i>	<p>Stavely Project</p> <p>Thursday's Gossan Prospect</p> <p>Stavely Minerals' RC Drilling</p> <p>Splitting of RC samples occurred via a rotary cone splitter by the RC drill rig operators. Cone splitting of RC drill samples occurred regardless of whether the sample was wet or dry.</p> <p>Historical Drilling</p> <p>No details are given for historical aircore and RC holes.</p>

Criteria	JORC Code explanation	Commentary
	<i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i>	
	<i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i>	<p>Stavely Project</p> <p>Thursday's Gossan Prospect</p> <p>Stavely Minerals' Diamond and RC Drilling</p> <p>Blanks and certified reference materials are submitted with the samples to the laboratory as part of the quality control procedures.</p> <p>Historical Drilling</p> <p>No details of quality control procedures are given for the historical drilling.</p>
	<i>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.</i>	<p>Stavely Project</p> <p>Thursday's Gossan Prospect</p> <p>Stavely Minerals' Diamond and RC Drilling</p> <p>No second-half sampling of the diamond core or field duplicates for the RC drilling has been conducted at this stage.</p> <p>Historical Drilling</p> <p>No details are given for the historical drilling.</p>
	<i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i>	<p>Stavely Project</p> <p>Thursday's Gossan Prospect</p> <p>Stavely Minerals' Diamond and RC Drilling</p> <p>The sample sizes are considered to be appropriate to correctly represent the sought mineralisation.</p> <p>Historical Drilling</p> <p>The sample sizes are considered to be appropriate to correctly represent the sought mineralisation.</p>
<i>Quality of assay data and laboratory tests</i>	<i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i>	<p>Stavely Project</p> <p>Thursday's Gossan Prospect</p> <p>Stavely Minerals' Diamond and RC Drilling</p> <p>Downhole Assays</p> <p>Company procedures were followed to ensure sub-sampling adequacy and consistency. These included, but were not limited to, daily work place inspections of sampling equipment and practices.</p> <p>The downhole samples were submitted to ALS Laboratory in Orange or Adelaide</p> <p>The core samples and 1m RC split samples were analysed by multielement ICPAES Analysis - Method ME-ICP61. A 0.25g sample is pre-digested for 10-15 minutes in a mixture</p>

Criteria	JORC Code explanation	Commentary
		<p>of nitric and perchloric acids, then hydrofluoric acid is added and the mixture is evaporated to dense fumes of perchloric (incipient dryness). The residue is leached in a mixture of nitric and hydrochloric acids, the solution is then cooled and diluted to a final volume of 12.5mls. Elemental concentrations are measured simultaneously by ICP Atomic Emission Spectrometry. This technique approaches total dissolution of most minerals and is considered an appropriate assay method for porphyry copper-gold systems.</p> <p>The core samples and 1m RC split samples were also analysed for gold using Method Au-AA23. Up to a 30g sample is fused at approximately 1,100°C with alkaline fluxes including lead oxide. During the fusion process lead oxide is reduced to molten lead which acts as a collector for gold. When the fused mass is cooled the lead separates from the impurities (slag) and is placed in a cupel in a furnace at approximately 900°C. The lead oxidizes to lead oxide, being absorbed by the cupel, leaving a bead (prill) of gold, silver (which is added as a collector) and other precious metals. The prill is dissolved in aqua regia with a reduced final volume. Gold content is determined by flame AAS using matrix matched standards. For samples which are difficult to fuse a reduced charge may be used to yield full recovery of gold. This technique approaches total dissolution of most minerals and is considered an appropriate assay method for detecting gold mineralisation</p> <p>Sulphur Isotope Analysis</p> <p>Each sample was drilled out of the sulphide vein using a Dremel tool and sent to the Central Science Laboratory at the University of Tasmania for δ^{34} sulphur isotope analysis.</p> <p>The samples were weighed on a precision “Sartorius Microbalance SE2”.</p> <p>The samples were analysed using an Isotope Ratio Mass Spectrometer (IRMS) - an “IsoPrime 100” from Isoprime and an Elemental Analyser - a “vario PYRO cube” from Elementar Analysensysteme.</p> <p>Nitrogen, Carbon and Sulphur (NCS) combustion, to analyse $\delta^{15}\text{N}$, $\delta^{13}\text{C}$ and $\delta^{34}\text{S}$, is a capability of the vario MICRO, ISOTOPE and PYRO cubes. The vario PYRO cube has the following setup for NCS mode: two packed reactor tubes (combustion and reduction), two ‘purge and trap’ desorption columns (for SO_2 and CO_2) and an inlet for both the sample and reference gas to enter the IsoPrime100 IRMS. After combustion, the bulk sample gas passes through the system and columns and is stripped of H_2O, in the water traps, as well as SO_2 and CO_2, in the ‘Purge and Trap’ Columns. The N_2 component gas is not trapped in a column and is the first to enter the IRMS. After the N_2 reference and sample peaks have been collected, the CO_2 desorption column is heated to 110°C and the CO_2 sample gas is released, passing through a second water trap and into the IRMS. The final gas to be released is SO_2 which occurs when the desorption column is heated</p>

Criteria	JORC Code explanation	Commentary
		<p>to 220°C, this sample gas then bypasses the CO₂ column (where it could potentially be retained), passes through a second water trap and enters the IRMS.</p> <p>The dilutor can be used to lower the gas loads entering the IRMS source.</p> <p>Sulphur isotope analyses have potential applications in the exploration of alkalic porphyry-style deposits, with zones of depleted delta sulphide values most prospective for high-grade mineralisation.</p> <p>Lithogeochemical Analysis</p> <p>Selected drill core samples were submitted to ALS Laboratory in Orange or Adelaide for lithogeochemical analysis. The samples were analysed by method CCP-PKG01 which is a complete lithogeochemistry characterisation package and combines the whole rock package ME-ICP06 plus carbon and sulphur by combustion furnace (ME-IR08) to quantify the major elements in a sample. Trace elements including the full rare earth element suites are reported from three digestions with either ICP-AES or ICP-MS finish: a lithium borate fusion for the resistive elements (ME-MS81), a four acid digestion for the base metals (ME- 4ACD81) and an aqua regia digestion for the volatile gold related trace elements (ME-MS42).</p> <p>Age Dating</p> <p>Drill core samples were submitted to CODES Technology Services to determine the age and trace element chemistry of zircon crystals.</p> <p>The samples were crushed and non-magnetic heavy minerals were separated at CODES at the University of Tasmania using gravity and magnetic separation techniques. Zircons were mounted on 25mm polished blocks and polished. They were then analysed using laser ablation inductively coupled plasma mass spectrometry (LA-ICP-MS) at the University of Tasmania. A range of trace elements were analysed as requested and included P, Ti, Fe, Y, Nb, REE, Hf and Ta. Trace element concentrations are quantified on the NIST610 assuming 49% Zr in the zircon crystal structure.</p> <p>Historical Drilling</p> <p>No details of sample preparation are given for the historical drilling.</p>
	<p><i>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.</i></p>	<p>Terraspec Halo NIR spectrometer</p> <p>The TerraSpec Halo near Infra-red (NIR) spectrometer has a full-range spectrometer measuring the visible and short wave infrared regions (350-2500 nm). The instrument package includes calibration reference materials.</p> <p>Spectrometer analyses are particularly effective for identification of hydrated (or hydroxyl bearing) clays typical of advanced argillic through sericitic (phyllic) and propylitic</p>

Criteria	JORC Code explanation	Commentary
		<p>hydrothermal alteration and therefore highly applicable for alteration zones in porphyry systems.</p> <p>Minerals are identified based on their characteristic NIR absorption spectra, and by comparison with standard minerals, from the USGS mineral spectral database.</p> <p>One spectral reading per metre of core was recorded. The dominant minerals were reported as well as the white mica (sericite) wavelength. The unit was calibrated with manufacturer provided reference fused disks at each start-up and as and when periodically prompted.</p> <p>Each spectral analysis took approximately 60 seconds.</p> <p>Data was downloaded on a hole by hole basis and raw data files were provided to Mineral Mapping Pty Ltd for processing and interpretation.</p>
	<p><i>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</i></p>	<p>Stavely Project</p> <p>Thursday's Gossan Prospect</p> <p>Stavely Minerals' Diamond and RC Drilling</p> <p>Laboratory QAQC involved the submission of standards and blanks. For every 20 samples submitted either a standard or blank was submitted.</p> <p>The analytical laboratory provide their own routine quality controls within their own practices. The results from their own validations were provided to Stavely Minerals.</p> <p>Results from the CRM standards and the blanks gives confidence in the accuracy and precision of the assay data returned from ALS.</p> <p>Historical Drilling</p> <p>No quality control data available for historical drilling.</p>
<p><i>Verification of sampling and assaying</i></p>	<p><i>The verification of significant intersections by either independent or alternative company personnel.</i></p>	<p>Stavely Project</p> <p>Thursday's Gossan Prospect</p> <p>Stavely Minerals' Diamond and RC Drilling</p> <p>Either Stavely Minerals' Managing Director or Technical Director has visually verified significant intersections in the core and RC chips at Thursday's Gossan.</p> <p>Historical Drilling</p> <p>Stavely Minerals' Managing Director has visually verified the significant intersections in historical diamond hole SNDD001.</p>
	<p><i>The use of twinned holes.</i></p>	<p>No twinned holes have been drilled.</p>
	<p><i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></p>	<p>Stavely Project</p> <p>Thursday's Gossan Prospect</p> <p>Stavely Minerals' Diamond and RC Drilling</p> <p>Primary data was collected for drill holes using the OCRIS logging template on Panasonic Toughbook laptop computers using lookup codes. The information was sent</p>

Criteria	JORC Code explanation	Commentary
		to a database consultant for validation and compilation into a SQL database. Historical Drilling No details provided for historical drilling.
	<i>Discuss any adjustment to assay data.</i>	No adjustments or calibrations were made to any assay data used in this report.
<i>Location of data points</i>	<i>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</i>	Stavelly Project Thursday's Gossan Prospect Stavelly Minerals' Diamond and RC Drilling Drill collar locations were pegged before drilling and surveyed using Garmin handheld GPS to accuracy of +/- 3m. Collar surveying was performed by Stavelly Minerals' personnel. This is considered appropriate at this early stage of exploration. For the diamond holes, down-hole single shot surveys were conducted by the drilling contractor. Surveys were conducted at approximately every 30m down-hole. Historical Drilling No details provided for drill collar locations for historical drilling. Downhole surveying was conducted for SNDD001 and VSTD001.
	<i>Specification of the grid system used.</i>	The grid system used is GDA94, zone 54.
	<i>Quality and adequacy of topographic control.</i>	At the Thursday's Gossan prospect topographic control is achieved via use of DTM developed from a 2008 airborne magnetic survey conducted by UTS contractors measuring relative height using radar techniques. For Stavelly Minerals' exploration, the RL was recorded for each drill hole and soil sample location from the GPS. Accuracy of the GPS is considered to be within 5m.
<i>Data spacing and distribution</i>	<i>Data spacing for reporting of Exploration Results.</i>	The drill hole spacing is project specific, refer to figures in text.
	<i>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.</i>	N/A

Criteria	JORC Code explanation	Commentary
	<i>Whether sample compositing has been applied.</i>	<p>Stavelly Project</p> <p>Thursday's Gossan Prospect</p> <p>Stavelly Minerals' Diamond Drilling</p> <p>Sample intervals were based on lithology but in general were 1m. No intervals were less than 0.4m or greater than 1.2m.</p> <p>Stavelly Minerals' RC Drilling</p> <p>No sample compositing has been applied.</p> <p>Historical Drilling</p> <p>Sample compositing based on lithology was applied for historical drill hole SNDD001.</p> <p>3m compositing was applied for historical drill holes STAVRA077 and TGAC004.</p> <p>2m compositing was applied for historical drill hole TGAC078.</p> <p>TGRC110, TGRC136, SAC029 and SAC030 were sampled on a 1m basis.</p> <p>A combination of 1m and 2m composite sampling was applied for VSTD001.</p>
<i>Orientation of data in relation to geological structure</i>	<i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i>	<p>Stavelly Project</p> <p>Thursday's Gossan Prospect</p> <p>Stavelly Minerals' Diamond and RC Drilling</p> <p>The RC pre-collars and diamond tails were orientated at -60° toward 070° to perpendicularly intercept the sulphide rich D veins within the low angle structure.</p>
	<i>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.</i>	<p>Stavelly Project</p> <p>Thursday's Gossan Prospect</p> <p>Stavelly Minerals' Diamond and RC Drilling</p> <p>There is insufficient drilling data to date to demonstrate continuity of mineralised domains and determine if any orientation sampling bias can be identified in the data.</p>
<i>Sample security</i>	<i>The measures taken to ensure sample security.</i>	<p>Stavelly Project</p> <p>Thursday's Gossan Prospect</p> <p>Stavelly Minerals' Diamond and RC Drilling</p> <p>Samples in closed poly-weave bags were collected from the Company's Glenthompson shed by a contractor and delivered to Hamilton from where the samples are couriered to ALS Laboratory in Orange, NSW.</p> <p>Historical Drilling</p> <p>No available data to assess security.</p>
<i>Audits or reviews</i>	<i>The results of any audits or reviews of sampling techniques and data.</i>	No audits or reviews of the data management system has been carried out.

Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
<i>Mineral tenement and land tenure status</i>	<i>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.</i>	<p>Stavely Project</p> <p>The diamond drilling and RC drilling at Thursday's Gossan was located on EL4556, which forms the Stavely Project.</p> <p>The mineralisation at Thursday's Gossan is situated within EL4556.</p> <p>The Stavely Project was purchased by Stavely Minerals (formerly Northern Platinum) from BCD Resources Limited in May 2013. Stavely Minerals hold 100% ownership of the Stavely Project Tenements. The Stavely Project is on freehold agricultural land and not subject to Native Title claims.</p> <p>New Challenge Resources Pty Ltd retains a net smelter return royalty of 3% in EL4556, although there is an option to reduce this to 1% upon payment of \$500k.</p>
	<i>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.</i>	<p>Stavely Project</p> <p>A retention licence, RL2017, was applied for over the majority of EL4556 in May 2014.</p> <p>The tenement is in good standing and no known impediments exist.</p>
<i>Exploration done by other parties</i>	<i>Acknowledgment and appraisal of exploration by other parties.</i>	<p>Stavely Project</p> <p>Thursday's Gossan Prospect</p> <p>Exploration activity became focused on Thursday's Gossan and the Junction prospects following their discovery by Pennzoil of Australia Ltd in the late 1970s. North Limited continued to focus on Thursday's Gossan in the 1990s. North's best drill result at Thursday's Gossan came from VICT1D1 which gave 161m of 0.26% Cu from 43m, including 10m of 0.74% Cu from 43m from a supergene-enriched zone containing chalcocite.</p> <p>The tenement was optioned to CRA Exploration between 1995 and 1997. CRAE drilled several deep diamond drill holes into Thursday's Gossan, including DD96WL10, which intersected 186m from 41m of 0.15% Cu and DD96WL11, which intersected 261.7m from 38.3m of 0.13% Cu.</p> <p>EL4556 was further explored by Newcrest Operations Limited under option from New Challenge Resources Ltd between 2002 and 2004. Their main focus was Thursday's Gossan in order to assess its potential as a porphyry copper deposit. One of their better intersections came from drill hole VSTD01 on the northern edge of the deposit which gave 32m at 0.41 g/t Au and 0.73% Cu from 22m in supergene-enriched material.</p> <p>The Stavely Project was optioned to Beaconsfield Gold Mines Pty Ltd in 2006 who flew an airborne survey and undertook an extensive drilling programme focused on</p>

Criteria	JORC Code explanation	Commentary
		<p>several prospects including Thursday's Gossan. One of their diamond drill holes at Thursday's Gossan, SNDD001, encountered zones with quartz- sulphide veins assaying 7.7m of 1.08 g/t Au and 4.14% Cu from 95.3m and 9.5m of 0.44 g/t Au and 2.93% Cu from 154.6m along silicified and sheared contacts between serpentinite and porphyritic intrusive rocks.</p> <p>Once Beaconsfield Gold Mines Pty Ltd had fulfilled their option requirements, title of EL4556 passed to their subsidiary company, BCD Metals Pty Ltd, who undertook a gravity survey and extensive drilling at prospects including Thursday's Gossan. They also commissioned a maiden Mineral Resource estimate for Thursday's Gossan.</p> <p>All work conducted by previous operators at Thursday's Gossan is considered to be of a reasonably high quality.</p>
<i>Geology</i>	<i>Deposit type, geological setting and style of mineralisation.</i>	<p>Stavely Project</p> <p>Thursday's Gossan Prospect</p> <p>The Thursday's Gossan and Junction prospects are located in the Mount Stavely Volcanic Complex (MSVC). Intrusion of volcanic arc rocks, such at the Mount Stavely Volcanic Complex, by shallow level porphyries can lead to the formation of porphyry copper ± gold ± molybdenum deposits.</p> <p>The Thursday's Gossan Chalcocite deposit (TGC) is considered to be a supergene enrichment of primary porphyry-style copper mineralisation. Mineralisation is characterised by chalcopyrite, covellite and chalcocite copper sulphide mineralisation within a sericite, illite and kaolin clay alteration assemblage. Copper mineralisation is within a flat lying enriched 'blanket' of overall dimensions of 4 kilometres north-south by up to 1.5 kilometres east-west by up to 60 metres thick with an average thickness of approximately 20 metres commencing at an average depth below surface of approximately 30 metres. The majority (circa 60%) of the Mineral Resources reside within a higher-grade zone of approximate dimensions of 1 kilometre x 300 metres by 35 metres thick.</p> <p>The Thursday's Gossan area hosts a major hydrothermal alteration system with copper-gold mineralisation over a 10 kilometre long corridor. The Junction porphyry target is defined by a coincident magnetic high, strong soil copper geochemistry, RAB drilling copper anomalism. Stavely Minerals believes the technical evidence indicates there is significant porphyry copper-gold mineralisation potential at depth at Thursday's Gossan.</p>
<i>Drill hole Information</i>	<i>A summary of all information material to the understanding of the exploration results including a tabulation of the following</i>	Included in the body of the text.

Criteria	JORC Code explanation	Commentary
	<p>information for all Material drill holes:</p> <ul style="list-style-type: none"> o easting and northing of the drill hole collar o elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar o dip and azimuth of the hole o down hole length and interception depth o hole length. 	
	<p>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</p>	<p>No material drill hole information has been excluded.</p>
Data aggregation methods	<p>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</p>	<p>Stavelly Project Thursday's Gossan Prospect</p> <p>Exploration results are nominally reported where copper results are greater than 0.1% Cu over a down-hole width of a minimum of 3m.</p> <p>No top-cutting of high grade assay results have been applied, nor was it deemed necessary for the reporting of significant intersections.</p> <p>Core loss is reported in the intercept table where appropriate.</p>
	<p>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.</p>	<p>Stavelly Project Thursday's Gossan Prospect</p> <p>In reporting exploration results, length weighted averages are used for any non-uniform intersection sample lengths. Length weighted average is (sum product of interval x corresponding interval grade %) divided by sum of interval length.</p> <p>Historical Drilling</p> <p>In reporting exploration results, length weighted averages are used for any non-uniform intersection sample lengths. Length weighted average is (sum product of interval x corresponding interval grade %) divided by sum of interval length.</p>
	<p>The assumptions used for any reporting of metal equivalent values should be clearly stated.</p>	<p>No metal equivalent values are used for reporting exploration results.</p>

Criteria	JORC Code explanation	Commentary
<i>Relationship between mineralisation widths and intercept lengths</i>	<p><i>These relationships are particularly important in the reporting of Exploration Results.</i></p> <p><i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></p>	<p>Stavely Project</p> <p>Thursday's Gossan Prospect</p> <p>There is insufficient drilling data to date to demonstrate continuity of mineralised domains and determine the relationship between mineralisation widths and intercept lengths.</p>
	<p><i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</i></p>	<p>Refer to the Tables and Figures in the text.</p>
<p><i>Diagrams</i></p>	<p><i>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.</i></p>	<p>Refer to Figures in the text. A plan view of the drill hole collar locations is included.</p>
<p><i>Balanced reporting</i></p>	<p><i>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.</i></p>	<p>Stavely Project</p> <p>Thursday's Gossan Prospect</p> <p>All copper and gold values considered to be significant for porphyry mineralisation have been reported. Some subjective judgement has been used.</p>
<p><i>Other substantive exploration data</i></p>	<p><i>Other exploration data, if meaningful and material, should be reported including (but not limited to):</i></p> <p><i>geological observations;</i></p> <p><i>geophysical survey results;</i></p> <p><i>geochemical survey results;</i></p> <p><i>bulk samples – size and method of treatment;</i></p> <p><i>metallurgical test results;</i></p> <p><i>bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</i></p>	<p>All relevant exploration data is shown on figures and discussed in the text.</p>

Criteria	JORC Code explanation	Commentary
<i>Further work</i>	<p><i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></p> <p><i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></p>	<p>Stavelly Project</p> <p>Thursday's Gossan Prospect</p> <p>Further deep diamond drilling has been planned to test the targeted high-grade copper-gold mineralisation below the low-angle structure using the M veins as a vector.</p>