CORBETT GEOLOGICAL SERVICES Pty. Ltd.
A.C.N. 002 694 760
6 Oakville Road, Willoughby, N.S.W. 2068, Australia
Phone (+61) (0) 409 306063
E-mail: greg@corbettgeology.com Web: www.corbettgeology.com

COMMENTS ON
CONTINUED EXPLORATION
OF THE CAYLEY LODE
AND
REGIONAL PROJECTS
AT STAVELY, WESTERN VICTORIA

Greg Corbett
May 2022

SUMMARY

The controls to ore shoot development within the Cayley Lode, including below the low angle structure (LAS), might be considered in the light of models derived from evaluation of low sulphidation epithermal Au-Ag veins, in which the coincidence of several factors controls development of vein portions that are both wider and of higher metal grade as:

- Structure, apparent in stacked cross sections, demonstrates the overall control of the Cayley Lode by the dilatant Stavely Flexure/pull-apart basin and protracted reverse movement on the LAS, although with some variation along strike. In the NE, pre-mineral offset on the LAS has stepped the upper volcanic/ultramafic contact to the NW such the strike-slip movement on two duplex faults formed a series of lodes in a negative flower structure array, with a flat pitching ore shoot developed at the lode confluence immediately above the LAS. To the SE this configuration varies to provide a flat pitch as a hanging wall splay to a moderate dipping fault/lode, which continues below the LAS further to the SE.
- Style of mineralisation at Stavely relates to the position of any drill intercept in the paragenetic sequence of Cayley Lode formation and mineral zonation provided by ore fluid evolution. Vectors to mineralisation might be evident in lode drill intercepts within the vertical zonation of Cayley Lode overprint on D vein pyrite-chalcopyrite mineralisation from deep to shallow as: pyrite-chalcopyrite-magnetite-haematite -> bornite -> chalcocite. The final covellite -> enargite of this trend is not well developed in the Cayley Lode. Laterally marginal to the Cayley Lode, cooling and neutralisation of the ore fluid provides lower sulphidation low pH ore minerals in the trend: tennantite-> sphalerite-galena -> pyrite.
- Competent host rocks which are required for development of vein-hosting fractures, appear to be provided by volcanic rocks rather than the granodiorite intrusions, although Fe-rich compositions might aid sulphidation reactions to deposit Cu-Fe sulphide minerals (below).
- Mechanisms of Au deposition in epithermal deposits might translate to fluid cooling and possible sulphidation reactions within the Cayley Lode.
- Post-mineral effects such as: fault offsets, stoping-out of ore by post-mineral intrusions or vein minerals, as well as supergene effects, must be taken into account.

Field checking suggested below should attempt to trace the current ore shoots to depth.

At Toora West, the air core drill hole geochemical anomalies used to target recent diamond drill holes appear to have been associated with vein types which could have been derived from deeper crustal level source rocks, rather than the wide variety of intrusions intersected in those diamond drill holes. The mineralised veins commonly cut veins related to the host porphyry intrusions and contain inner propylitic albite-actinolite prograde alteration, possibly associated with the buried magmatic source for mineralisation. The host intrusions display sparce prograde alteration although retrograde silica-sericite-pyrite is locally well developed. As a consequence, the southern portion of Toora West must be provided with a priority C which places continued exploration on hold, unless any untested portions might be provided with a priority BC. However, the presence of strong inner propylitic epidote-actinolite alteration in DDH STWD008, which was in progress at the time of this inspection, favours continued consideration in that area with a priority AB.

The geophysical and air core drill data for several regional projects was reviewed and anomalies prioritised. These data provide confidence for the model in use by Stavely Minerals that gravity data provides an indication of rock type and alteration. A quartz vein intersected in air core drill hole STAC005 at the S4 anomaly is indicative of a pattern that anomalous epithermal crustal level Ag-Sb-Mo is derived from an interpreted deep magmatic source. While this anomalism might pass down to carbonate-base metal Au mineralisation such as at Morning Bill, it is expected to remain some distance from any buried porphyry Cu-Au style magmatic source. However, improved dilatant structural settings such as at the Cowal Au mine or Cayley Lode have potential to improve the prospectivity of some anomalies such as at Nekeeya described herein.

INTRODUCTION

In April 2022, 4 days were spent at the Stavely Minerals field office, in a review of the controls to the Cayley Lode at depth and recent exploration at the Toora West prospect and other regional exploration projects. Analysis of the Cayley Lode cross section data was carried out later and requires field checking. The assistance in this work is gratefully acknowledged of Stavely geological staff Chris Cairns, Jennifer Murphy, Hamish Forgan, Stephen Johnson, Michael Agnew, Sarah Heard and James Davey.

Priority
Exploration projects are rated with priorities to proceed with the planned work program to take them to the next decision point. Any such a grading might include a number of projects at widely differing stages of evaluation, some with substantial data bases, while others might be unexplored, but may display considerable untested potential. Priorities are based upon the data to hand at the time of inspection, and are subject to change as increased exploration provides improved and additional data. Projects are categorised as:
A – Of highest interest such that the proposed exploration program should be carried out immediately. However, early stage projects with untested potential might be rapidly down-graded from this stage by completion of the planned work program.
B – Of some interest and should be subject to further work if funds are available, often with smaller components of continued exploration expenditure than higher priority targets.
C – Of only little interest and subject to further work at a low priority if funds are available, but not to be relinquished at this stage.
D – Of no further interest and can be offered for joint venture or relinquished.

CAYLEY LODE

Hamish Forgan posed the question “Can you suggest controls to the Cayley Lode below the low angle structure” (figure 1).

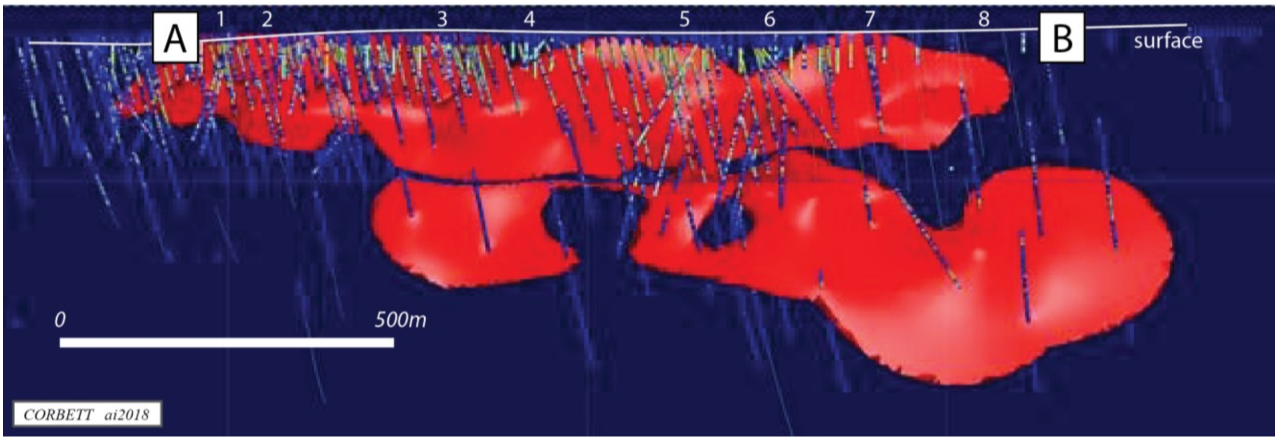

Figure 1 Cayley Lode in red on a long section, position shown on figure 2. The low angle structure lies immediately above the sea level, shown as a thin horizontal blue line, while the drill hole collars are at 265 RL. By way of scale, this Cayley Lode shape is approximately 1.5km long and 500m vertically in the south and the high grade shoot displays a 200-250m vertical extent and is 1.2km long, from Stavely data.

The Cayley Lode is localised within a NW-trending and steep SW-dipping dilatant Stavely Flexure formed by a component of transient sinistral strike-slip movement in the regional generally NS-NNW trending Stavely Fault (figure 2). The Stavely Flexure could represent the deeper level portion of a negative flower structure, rising to a near surficial pull-apart basin within a negative flower structure configuration (figure 3), apparent from the distribution of the North-South and related faults at Thursdays Gossan-Cayley Lode. Such a model includes continued activation of the dilatant normal faults as growth faults (shown in figure 3), although no epiclastic sediments typical of pull-apart basins have yet been recognised in deep drill holes such as SMD117.

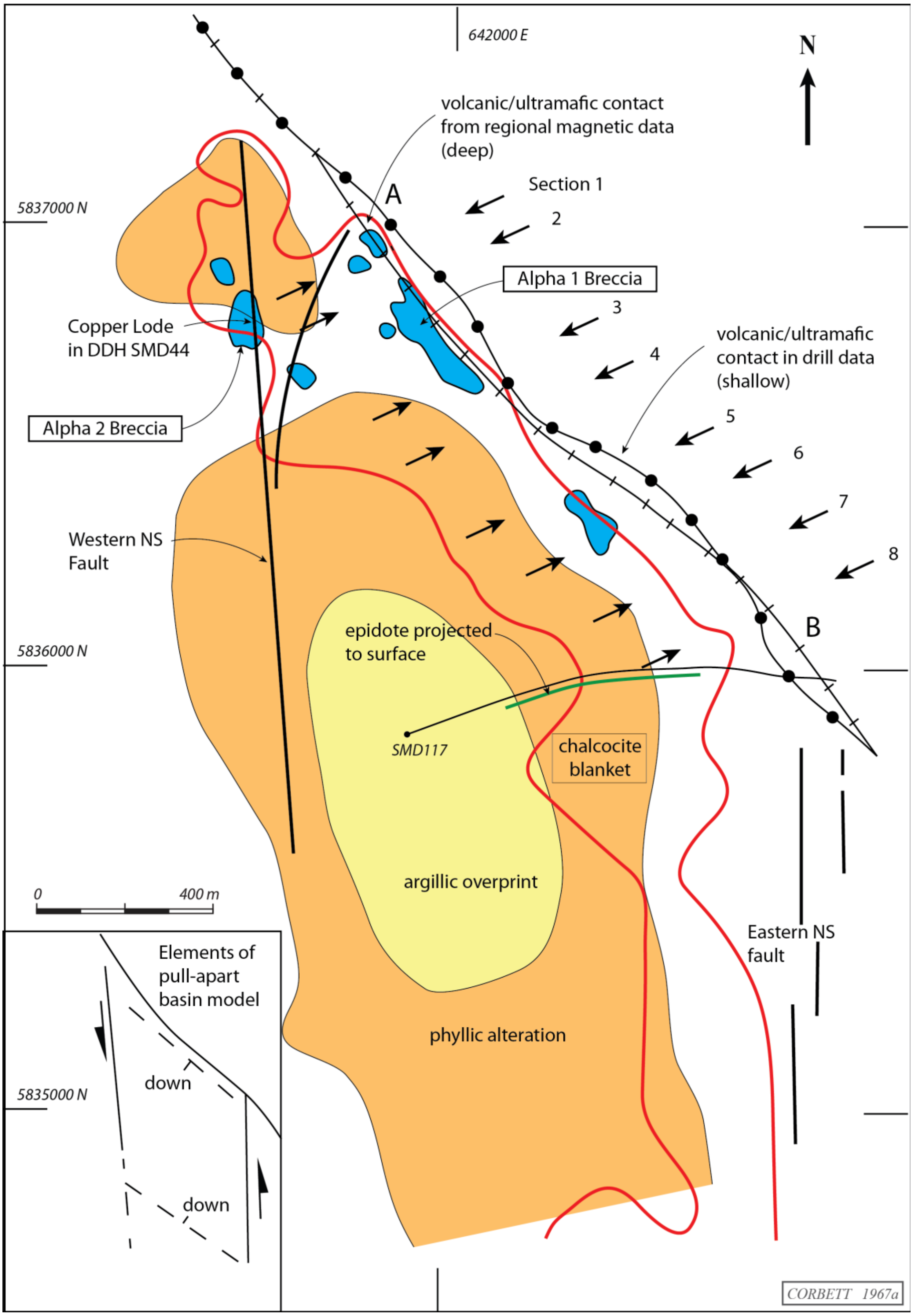

Figure 2 Plan view for the setting of the Cayley Lode long section between points A and B on figure 1 and the locations of cross sections discussed below.

The formation of many other Lachlan Fold Belt ore systems was also triggered by similar transient changes from compression to sinistral strike-slip kinematics on the controlling NS structures

(Cowal, Cobar district), or relaxation of arc-style EW compression to localised extensional environments of intrusion emplacement and NS oriented vein formation (Goonumbla porphyries). Although post-mineral deformation hampers reconstructions, the Cambrian Stavely Volcanics were deposited in a down-dropped block to the west of the Stavely Fault, and numerous drill intercepts have identified the footwall ultramafic rocks to the eastern side. A complex suite of intrusions, currently related to three batholitic events, are interpreted to have been emplaced during progressive uplift and erosion. While the initial Victor Batholitic Porphyry is well exposed, many intrusions and much of the wall rock hosted vein mineralisation are related to the underlying Thursdays Gossan batholith, while the more deeply buried interpreted Alfa magmatic event is considered to be responsible for the Cayley mineralisation, Alfa breccias and associated intrusions such as the flow banded rhyolite in DDH SMD136 (Corbett, 2021a).

The strike length of the Cayley Lode is expected to be limited to the strike extent of the NW flexure or northern dilatant limb of the pull-apart basin, illustrated in figures 1-3 and several factors described below control the nature of any ore shoots.

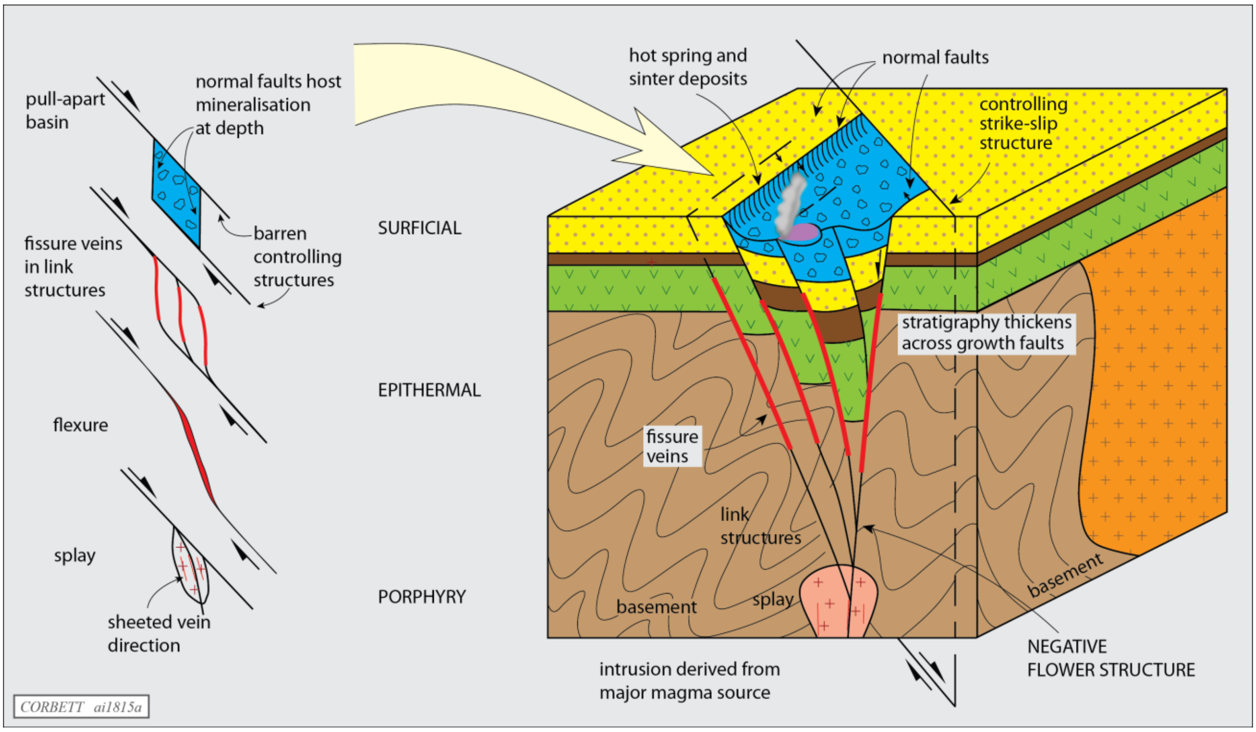

Figure 3 Negative flower structure that accounts for a vertical sequence of dilatant fracture/fault systems active as growth faults in the formation of surficial pull-apart basins and buried fissure veins, to deepest splay faults that may localise porphyry intrusions, (Chuquicamata, Chile; Far South East, Philippines), from Corbett and Leach (1998) and Corbett (2017).

The shallow SW-dipping Low Angle Structure (LAS) is interpreted from the data below to display a protracted history of mostly reverse sense, pre- to syn and post-mineral movement, extending to exploitation by the Devonian Lalkaldarno Dyke (LKD) dated as 408 m.y. by Stavely Minerals. Pre-mineral reverse movement created the environment for Cayley ore shoot formation described below.

A tentative paragenetic sequence of events relevant to the Cayley Lode, subject to field checks, includes:

- Magmatic arc extension resulted in the formation of the rift-like contact between older ultramafic to the east and a basin in which the Cambrian Stavely Volcanics have been deposited to the west. Current thinking favours orthogonal extension.

- The LAS developed with reverse movement during transient compression to offset the upper portion of the volcanic-ultramafic contact to the east (figure 5).
- The vertically attenuated microdiorite appears to cut the LAS, to also favour an early inception of the LAS.
- The Stavely Flexure/pull-apart basin formation, promoted by a component of transient sinistral strike-slip movement on the Stavely Fault provided the dilatant structural setting in which the distinctive mineralogy of the Cayley Lode developed (Corbett 2021a).

Controls to the Cayley Lode, classified as transitional between a porphyry D vein and deep epithermal lode, can be understood using analogies with the controls to ore shoot development in Pacific rim low sulphidation epithermal Au-Ag deposits (Corbett, 2007 and updates). In those data ore shoots, characterised as wider and higher metal grade vein portions, most easily apparent as contoured gram x metre plots on long section data, develop within epithermal veins at the coincidence of several factors, which might be applied to the Cayley Lode as:

- Structure as an interaction between syn-mineral extension and trans-tension, followed by local compression which may extend to post-mineral.
- Style of epithermal mineralisation, here considered as the original D vein followed by the position of any drill intercept in the paragenetic sequence of Cayley Lode formation and mineral zonation provided by ore fluid evolution.
- Host rocks as competent hosts required for development of vein-hosting fractures, although the effects of alteration must be considered and reactive wall rocks are locally important.
- Mechanisms of (epithermal) Au deposition are less important at the Cayley Lode where fluid cooling dominates over fluid mixing which accounts for bonanza Au formation in epithermal veins. However, the possibility must be considered that fluid mixing accounts for the high grade Au intercept in DDHSMD182.
- Post-mineral effects such as: fault offsets, stoping-out of ore by post-mineral intrusions or gangue minerals, as well as supergene effects, must be taken into account.

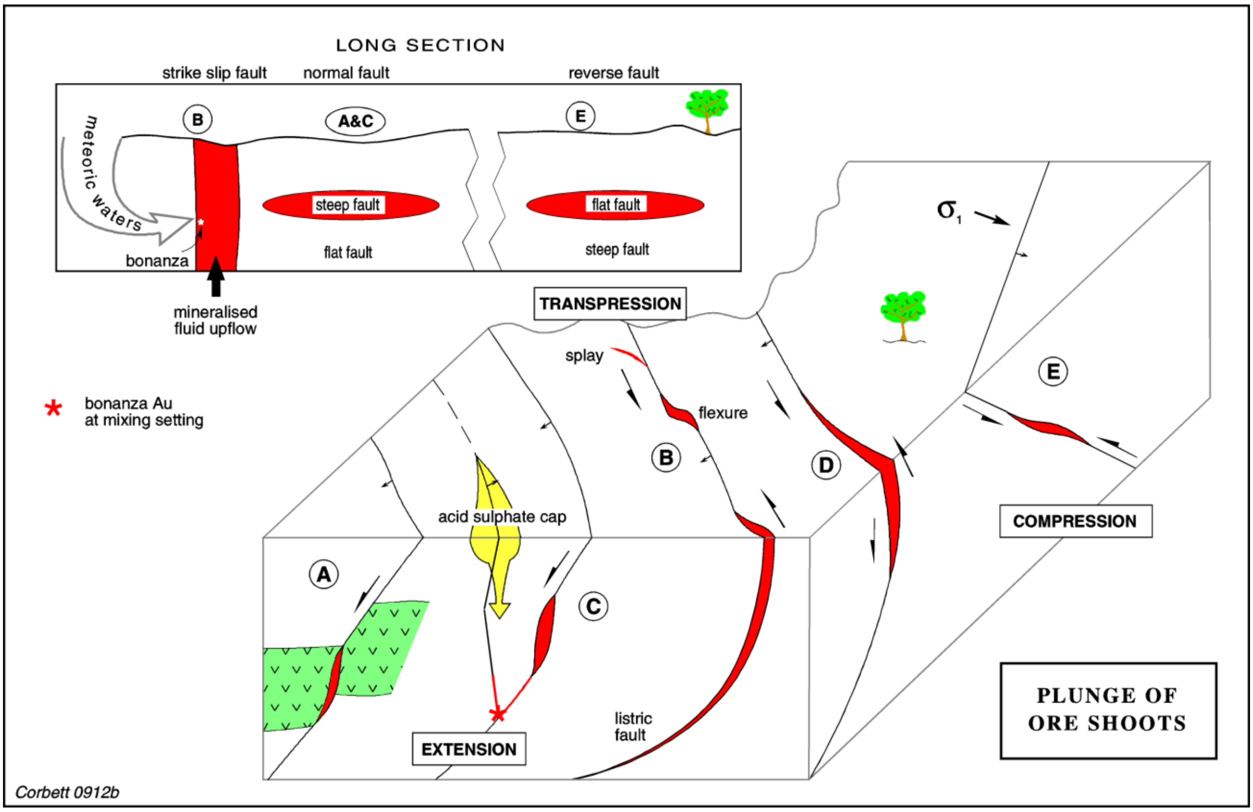

Figure 4. Development and orientation of epithermal vein ore shoots (in red) in conditions of strike-slip, normal and reverse fault deformation, from Corbett (2007 & 2012).

<u>Structure</u>
In the trans-tensional setting outlined above, the trigger for Cayley Lode development was provided by a transient change to a component of sinistral strike-slip movement on the Stavely Fault contact between the Stavely Volcanics and ultramafic rocks, which resulted in formation of the Stavely Flexure/pull-apart basin dilatant structural environment. Magmatic ore fluids migrated to the margin of the buried cooling speculated Alfa Batholith bounded by the Stavely Flexure. Ore fluids evolved during the rapid flow up the dilatant Stavely Flexure to yield the distinctive Cayley mineralogy (Corbett, 2021a). Here, the interaction of sinistral strike-slip and west-block-down normal fault movement controls the development (and orientation) of ore shoots. As illustrated in figure 4, strike-slip fault movement generally elsewhere produces steep pitching ore shoots within dilatant settings such as fault jogs, flexures or splays, while shallow pitching ore shoots most commonly develop within steep dipping portions of moderate dipping normal faults, including listric faults in strongly extensional settings (figure 4). Normal fault movement may also account for the development of mineralisation within adjacent steep dipping hanging wall and footwall splays. Bonanza metal grades develop within sites of fluid mixing at the intersection of these subsidiary structures with the main fault. Less commonly flat pitching ore shoots develop in flatter dipping portions of reverse faults.

The <u>structural controls to the Cayley Lodes(s)</u>, shown in a series of cross sections moving from north to south along the Stavely Fault include:

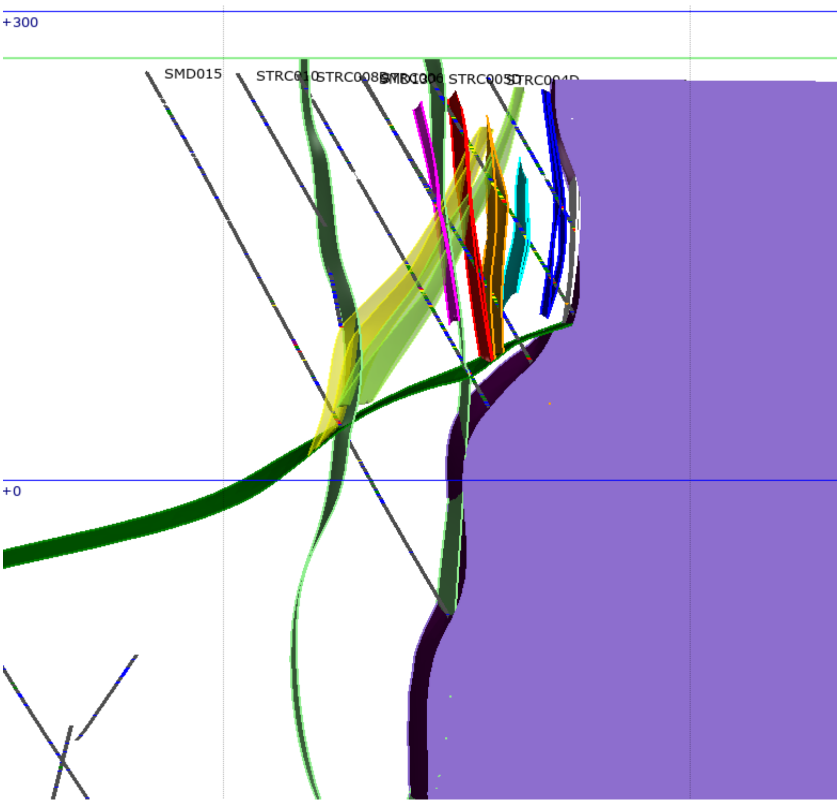

Figure 5 section 1, shown in figure 3 as the most northwesterly of this series of cross sections, is characterised by a steep-dipping set of Cayley Lodes developed in a negative flower structure configuration which terminates at the LAS, here interpreted as pre-mineral. The flower structure would normally be linked to the underlying steep-dipping Stavely Volcanics-ultramafic contact. The lack of offset on the vertically attenuated microdiorite suggests an emplacement after offset of the volcanic-ultramafic contact and probably prior to lode emplacement.

In the north, where the upper portion volcanic-ultramafic contact stepped to the NE by a pre-mineral reverse movement on the LAS, the sinistral movement on the Stavely Fault has transferred to two structures, defined by the relocated volcanic-ultramafic contact and the other as the upward projection of the contact at depth. and therefore formed an intervening fault duplex (figures 3 & 5-7). In this construction a series of lodes conform to a negative flower structure configuration, typical of trans-tensional structural settings (figures 2 & 5). A vertically attenuated microdiorite constrains the flower structure to the SW. The overall duplex/negative flower structure is here floored by the LAS, rather than a more typical dilatant splay fault. Consequently, a flat pitching ore shoot hosts best Cu contents towards the base of the flower structure where the separate lodes converge just above the LAS.

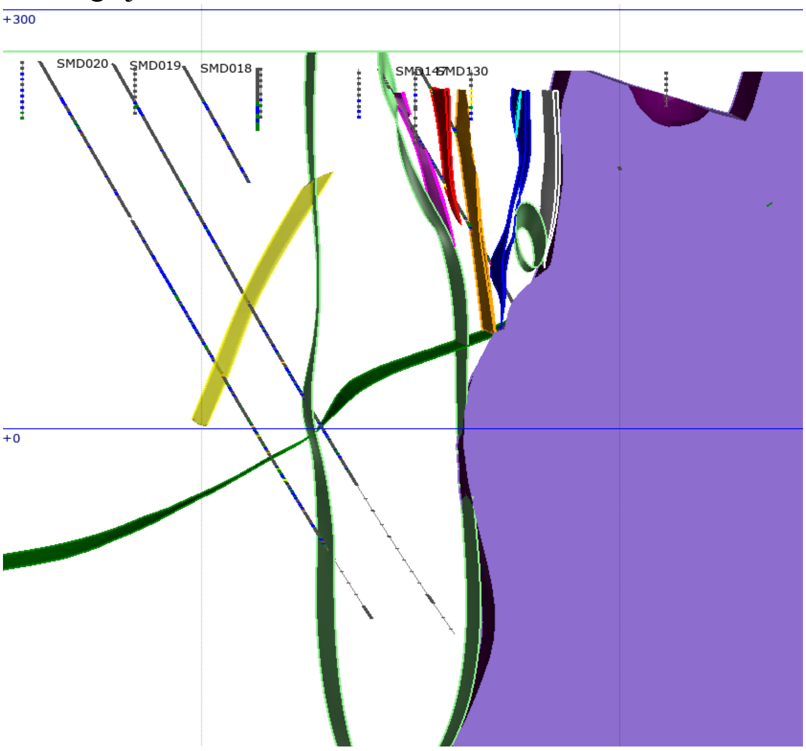

Figure 6 section 2 in figure 3 shows a negative flower structure array of a series of Cayley Lodes developed in a dilatant embayment in the Stavely Volcanics-ultramafic contact.

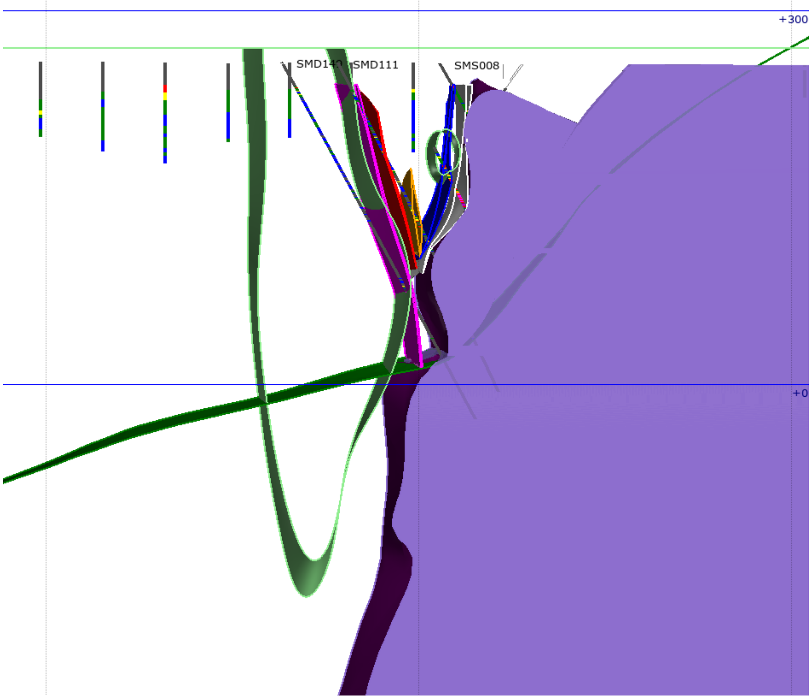

Figure 7 section 3 in figure 3 shows the strong negative flower structure configuration of the Cayley Lode in an embayment constrained between a microdiorite and Stavely Volcanics-ultramafic contact. The flower structure has become tighter and the SW lode dominant.

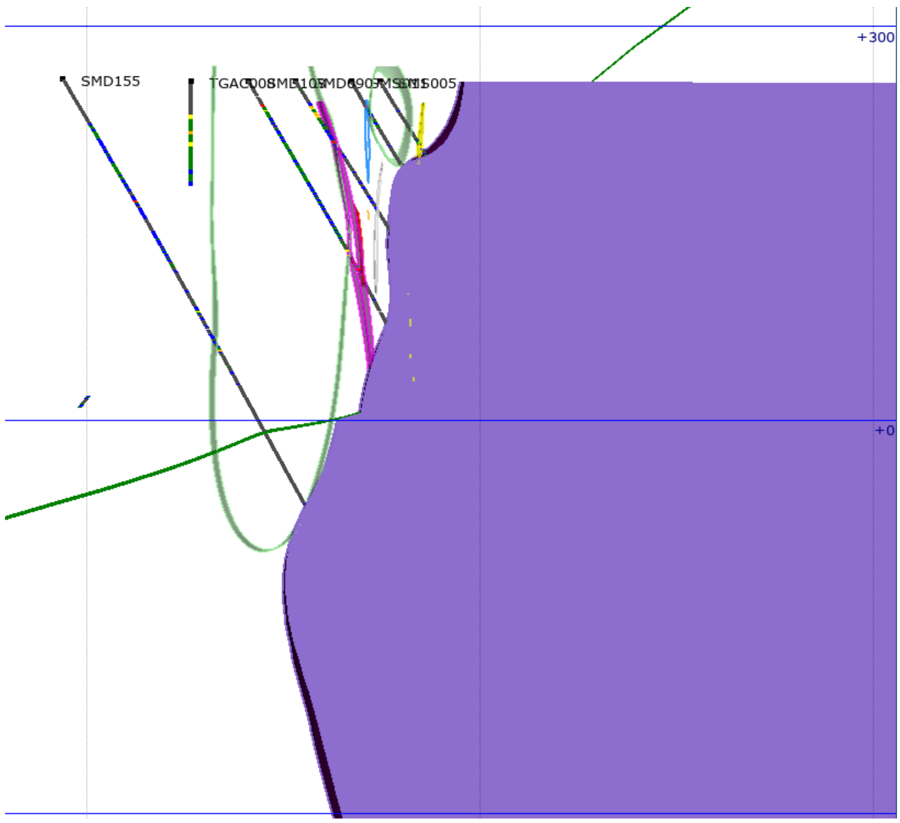

Figure 8a section 4 in figure 3 wide angle view showing a steep NE dipping Cayley Lode, developed only above the LAS, in an area where only a small embayment in the ultramafic hosts one of two granodiorite bodies.

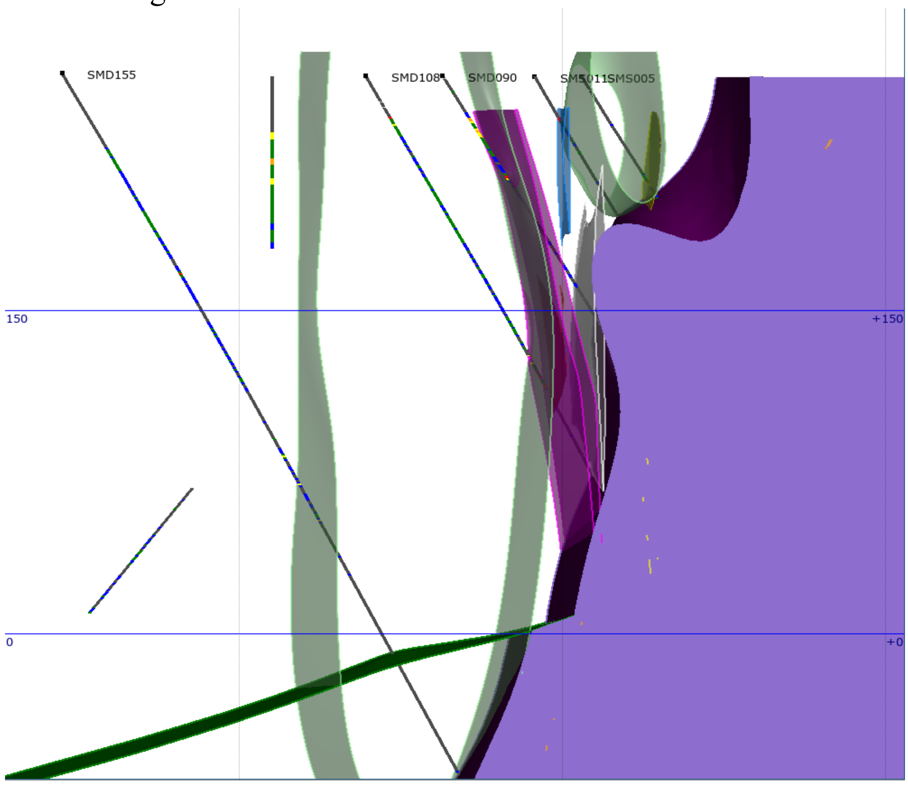

Figure 8b section 4 in figure 3 close up view of a prominent vertical to steep NE dipping Cayley Lode developed only above the LAS, in an area where only a small embayment in the ultramafic hosts one of two granodiorite bodies.above the LAS.

Therefore, in the NW portion of the Cayley Lode (figures 5-7) strike-slip movement in the duplex formed by two parallel structures promoted the development of multiple lodes within the dilatant fractures of the negative flower structure, which here is floored by the LAS in order to form a flat pitching ore shoot at the confluence of the several lodes. By contrast, analysis of section 4 (figure 8) to the SE suggests a single steep NE dipping Cayley Lode takes on the apparent configuration of a hanging wall splay to normal fault movement on the volcanic-ultramafic contact (figure 8). Each of these structures developed from elements of the negative flower structure.

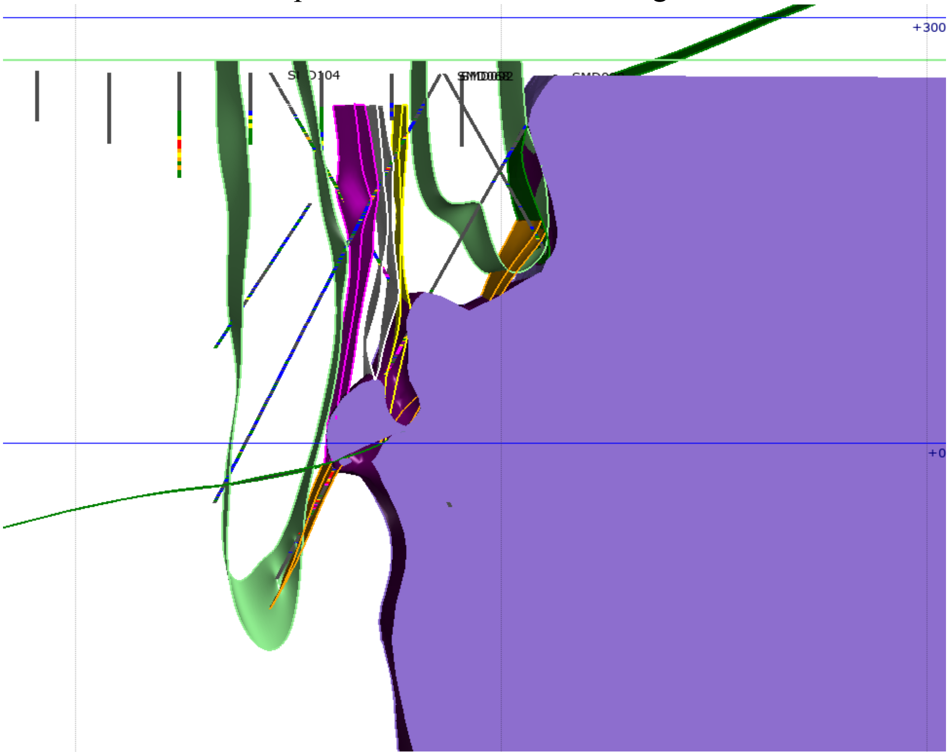

Figure 9 section 5 in figure 3 illustrates the development of multiple Cayley Lodes as hanging wall splays to an underlying moderate SE dipping normal fault which also hosts Cayley mineralisation and constrained between two bodies of microdiorite. Increased extension may have influenced multiple lode formation.

Renewed normal fault movement on the volcanic-ultramafic contact has resulted in development of a mineralised fault in the footwall of the progressively more prominent Cayley Lode in section 5 (figure 9). Some narrow lodes in section 4 (figure 8) become more obvious in section 5 hosted within a wider body of volcanic rocks as the volcanic-ultramafic contact above the LAS has again stepped to the NE. Of interest is the development of a new, apparently mineralised, moderate SW dipping fault at the relocated contact between volcanic and ultramafic rocks in section 5 (figure 9). This structure is present above and below the LAS in sections 5 and 6 (figures 9 & 10) with no apparent offset of either structure in section 6 (figure 10)..

There is another change in kinematics moving SE apparent in section 6 (figure 10) currently interpreted as a syn-mineral component of compression and reverse movement on the LAS. The well-developed hanging wall lode in section 5 (figure 9) is not present in section 6 where the granodiorite bodies converge restricting the extent of the volcanic rocks, which appear to favour Cayley Lode formation. The shallow SW dipping LAS takes on a flat character also apparent in the underlying Cayley Lode, although the bottom portion of this structure is not constrained by drill data on this section. In conditions of reverse deformation, flat pitching ore shoots may develop in flatter dipping portions of moderate-dipping reverse faults (example E in figure 4). This structural scenario of a flatter dipping fault/lode portion is also recognised in section 8 (figure 12).

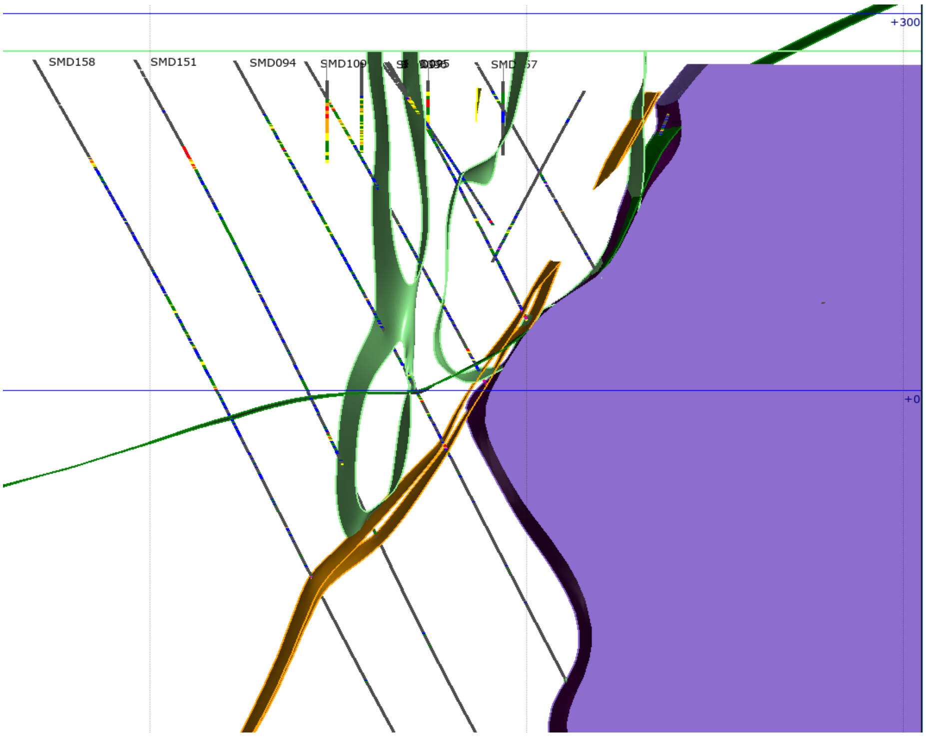

Figure 10 section 6 in figure 3 shows the moderate SE dipping Stavely Fault which is now only locally developed as the contact between the volcanic and ultramafic rocks. Rather, this structure continues down-dip wholly within the volcanic rocks with a dip of -50º. In an extensional kinematic regime this shallow dip would not be conducive to ore formation. The dip on the bottom-most fault segment is unconstrained by deeper drilling.

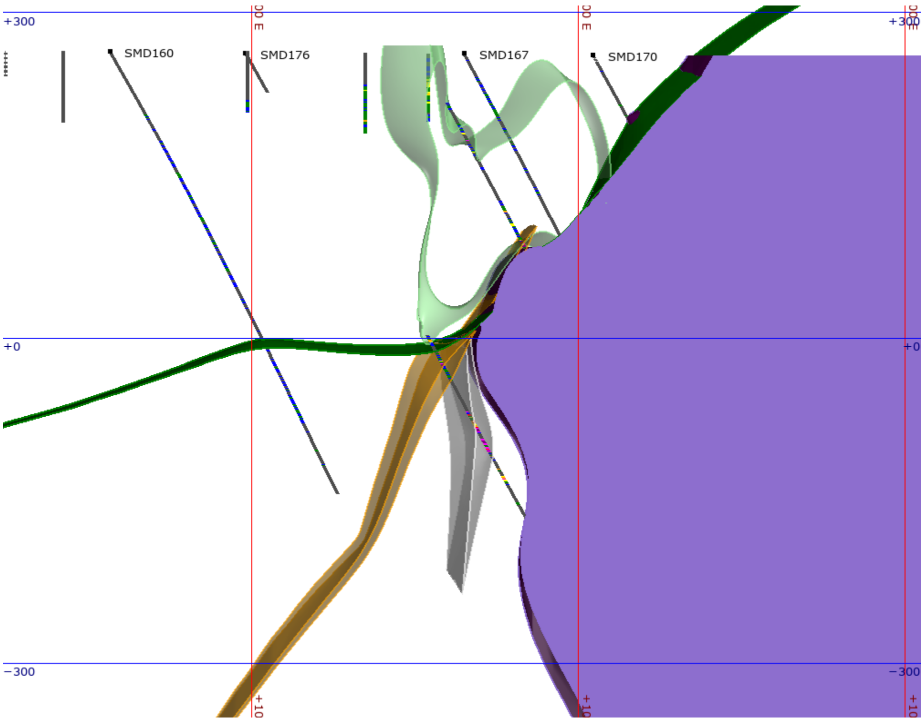

Figure 11 section 7 in figure 3 showing Stavely Fault, which may host lode mineralisation, formed with a moderate dip (-57º) below the LAS and a steep-dipping footwall splay in grey which is more likely to host mineralisation than the moderate dipping fault zone.

There appears to be a further localised change in kinematics in section 7 (figure 11), where in the general extensional kinematic environment, the moderately dipping normal fault/lode below the LAS hosts a steeper dipping section. This is a prominent setting for ore shoot formation as illustrated in example C in figure 4 and would also promote development of a flat pitching ore shoot for the strike extent of the flexure. The presence of a footwall splay further supports the possibility of a normal fault movement and a control to mineralisation here. However, as the flexure is recognised on only one section constrained between several other sections where it is not recognised, this mechanism might account for only localised quality drill intercepts below the LAS. By contrast the footwall splay present in section 7 (figure 11) continues to section 8 (figure 12) close to the volcanic-ultramafic contact where normal fault movement might be expected. Any ore shoot developed here will display a flat pitch between sections.

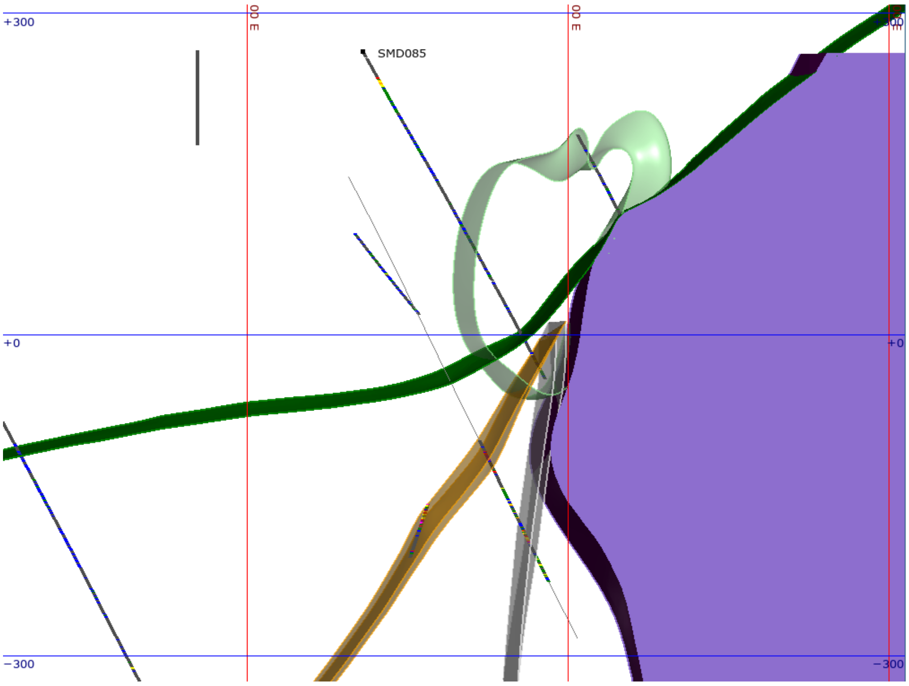

Figure 12 section 8 in figure 3 showing continuation of the Stavely Fault below the LAS and a footwall splay fault in grey. The moderately dipping LAS wraps over the top of the eastern volcanic-ultramafic contact. Note how the Stavely Fault/Lode displays a flat dip below the flatter dipping portion of the LAS to provide a modest flat pitching ore shoot. Renewed extension and normal fault movement has facilitated development of the steep dipping footwall fault/lode in grey closer to the volcanic-ultramafic contact. This construction should provide a flat pitching ore shoot if apparent on multiple cross sections.

In conclusion the cross section data suggest the Cayley Lode is localised within a dilatant setting formed by the Stavely Flexure/pull-apart basin developed as a negative flower structure, although the detailed kinematic control to mineralisation varies along strike. The most important element in the mineralising process involves the west-block-down normal fault contact between the western Stavely Volcanics and eastern ultramafic rocks. In the northern portion of the Cayley Lode this contact is stepped to east by pre-mineral reverse movement on the LAS to from a duplex during strike-slip fault movement in which several lodes occupy a negative flower structure array with a flat pitching ore shoot best developed at the confluence of the lodes immediately above the LAS. At the termination of the sidestepped portion of the volcanic-ultramafic contact where this faulted contact continues vertically, the negative flower structure varies to a hanging wall splay lode controlled by an underlying moderate SW-dipping normal faulted volcanic-ultramafic contact. This configuration contributes towards the continuation of the flat pitch of the ore shoot. Furthest to the SE, the fault controlled Cayley Lode lies below the LAS and exhibits footwall splays, which along with a control to mineralisation within steeper fault portions, also contribute to a continuation of the flat pitching ore shoot. There seems to have been some reverse fault movement during mineralisation which contributes to the formation of flat fault portions which also contribute towards the development of a flat pitch to the ore shoot. As discernible in sections 7 and 8, mineralisation can continue below the LAS as flat pitching ore shoots within steep fault portions and footwall splays.

This analysis has not provided an obvious feeder for the NW portion of the Cayley Lode where it is currently recognised above the LAS. Continued exploration should seek to test for such a feeder as an exploration target (below)

Style of mineralisation

This criteria normally relates to the considerable variation of Au grade within different styles of low sulphidation epithermal vein Au mineralisation (Corbett 2021a & 2022).

The Cayley Lode is interpreted to have developed as a result of polyphasal magmatism (Corbett 2021) in a model which features:

- Earliest outcropping Victor Porphyry Batholith is now deeply eroded and well exposed where it extends south from Thursday's Gossan and appears to account for much of the regional scale alteration defined by Spencer (1996).
- The buried Thursday's Gossan batholith is interpreted to account for many of the porphyry stocks and wall rock D veins characterised by mostly pyrite with lesser quartz and chalcopyrite and distinctive sericite wall rock alteration selvages, intersected in that drill program. The actual Thursday's Gossan boulders are most likely to represent weathered D veins. Some of these fluids are interpreted to have entered the Stavely Flexure and deposited an early D vein in that position.
- The more deeply buried Alfa magmatic event is speculated to abut the Stavely Flexure at depth (figure 5 in Corbett, 2021) and so ore fluids migrated laterally from the cooling batholithic intrusion and then bled rapidly up in dilatant flexure overprinting an earlier D vein. The model for the derivation zoned Cayley Lode Cu sulphide mineralogy suggests (Corbett, 2019b, including appendix I) the rising fluid became depressurised and evolved increased quantities of SO_2 which in turn underwent disproportionation below 400^{o}C, especially in the 300-150^o range, to promote development of H_2S0_4 so that the rising ore fluid developed a progressively lower pH. Under these conditions the paragenetic sequence of mineral deposition in conditions of progressively lower pH is characterised by the overprinting deposition of magnetite-haematite -chalcopyrite -> bornite -> chalcocite -> covellite -> enargite. Here, prograde magnetite overprints retrograde sericite. The bornite-chalcocite ores are favoured as chalcocite contains the highest Cu (80%) and bornite highest Au. The Cayley Lode trend has not continued to include covellite and the unfavourable enargite.

If Cayley Lode exploration is to target the bornite-chalcocite zone vectors might include:

- A quartz-pyrite $\pm$ chalcopyrite D vein drill intercept may lie above or below and ore shoot.
- Chalcocite may vector towards deeper bornite with elevated Au.
- Bornite may vector towards deeper chalcopyrite which may be of a lower metal grade or higher level chalcocite with high Cu.
- A chalcopyrite drill intercept might only vector towards better quality Cu-Au mineralisation in a more evolved, higher level, fluid. Here, drill tests at depth are not likely to display improved in Cu and Au grades.

The low pH ore fluid may eventually become cooled and neutralised by wall rock reaction and entrainment of ground waters to evolve to a near neutral pH and progressively deposit zoned lower sulphidation ore minerals at the margin of the Cayley Lode margins in the paragenetic sequence: tennantite-tetrahedrite -> sphalerite-galena-Mn carbonate -> Ag sulphosalts and Au compounds although not all these elements may be present in the zonation. Recognition of these minerals may also vector towards Cayley Lode ore.

Competent host rocks, particularly in the hanging wall may fracture well to promote vein development and associated mineralisation. There are many instances in epithermal exploration of settings where incompetent often reactive, permeable and therefore altered rock units overlie and obscure Au-Ag mineralisation within underlying competent rocks (Chatree, Thailand; El Penon, Chile; Palmarejo, Mexico; WKP, New Zealand).

At Stavely:

- Fe-rich rock such as ultramafic rocks in the footwall at Stavely may also promote the deposition of Fe-bearing ore minerals.
- The mineralised lodes appear to preferentially develop in the volcanic rocks constrained between the microdiorite as the reason for this remains unknown on the data to hand.

Mechanism of metal deposition, in porphyry-related systems is expected to be dominated by fluid cooling, locally with the influence of collapsing low pH cooler waters for mineralisation associated with phyllic-argillic alteration. Fluid mixing is important for the development of bonanza Au grades in low sulphidation epithermal Au deposits (Corbett, 2007). In the Cayley Lode the intersection of 10g/t Au in DDH SMD182, 430-430.9m, features minor haematite which may be replacing sulphides in a chalcopyrite-quartz-pyrite lode. Mixing of oxygenated (meteoric) water with rising magmatic fluids is a common mechanism for the destabilisation of bisulphide complexes which transport Au and deposition of elevated Au in low sulphidation epithermal Au deposits (Leach and Corbett, 2008). Such a mechanism may be in play here if suitable structures promote access of shallow crustal level waters to rising ore fluids.

Conclusion

The controls to the development of ore shoots (as wider and higher metal grade vein portions) in the Cayley Lode may be viewed from the experience in low sulphidation epithermal Au vein deposits, for which several factors combine to provide best ore shoots as:

- Above the LAS, an overall flat-lying character of the Cayley Lode results from mainly structural factors attributed to the dilatant Stavely Flexure/pull-apart basin setting, associated with a trigger provided by the transient change in the status of the regional scale Stavely Fault. The cross section data confirms the flat to shallow SE pitching form of the ore shoot, and suggests these structural factors vary along strike from a duplex in the NW to hanging wall splays to a normal fault in the SE and protracted movement on the LAS contributed towards formation of the ore environment.
- Below the LAS, the ore shoot is controlled by a steep-dipping flexure in a moderate-dipping fault/lode as well as a footwall splay lode, with a flat pitch if continuous between sections but at a probable lower RL.

Therefore there is potential for additional Cayley Lode mineralisation below the LAS in the SE portion as a Cayley Lode.

Continued exploration below the LAS in the NW portion of the Cayley Lode should attempt to identify any mineralised feeder for the Cayley Lode. Analysis of the fluid evolution path could be of use here (below).

Recommendations

Further analysis of the data to hand should attempt to estimate the potential at depth for a mineralised feeder for the Cayley Lode, both above (in the NW) and below (in the SE) the LAS, as:

- Extensive field checking is required to verify the relationships suggested herein based only on the inspection of computer generated cross sections.

- Contour of the Cu mineralogy that might aid in an estimation of the fluid flow path that might project back towards a fluid upflow.
- Preparation of a Cu% x metre long section what illustrates the Cayley Lode mineralisation in detail.
- If possible, construction of a long section showing contoured dip of the Cayley Lode.
- Amongst the field checking clarification could be sought for the:
    - Analysis of different style of mineralised clasts within the Alfa 1 and Alfa 2 breccias might provide a vector towards a mineralised source that might include porphyry Cu style.
    - The relationship between the Alfa breccia, Cayley Lode
    - Why the Cayley lode develops within the volcanic rocks and not the granodiorite

TOORA WEST

The examination of Toora West focused upon a review of the available diamond drill core for drill holes STMD5, 6 and 7 along with portions of 8 which was being bored at that time (figure 6). The bedrock has undergone weathering prior to the emplacement of about 40m of transported grit cover (in DDH STWD6 & 7) and some basalt elsewhere. Cambrian host rocks include basalt/andesite which dominate in the drill core inspected along with sandstone into which have been emplaced a variety of mafic to felsic intrusions.

The suite of <u>igneous rocks</u> displays a wide of range of compositions varying mainly from diorite to tonalite in petrology by Ashley, although some porphyry intrusions with quartz eyes have been provided with the dacite field term. A coarse grained tonalite porphyry (photo 1) is most common, intersected for much of DDH STWD5 and also recognised in holes 6 and 7, while porphyritic hornblende diorite (photo 2) and quartz diorite (photo 3) are well represented and equigranular diorites are reminiscent of batholitic igneous rocks (photo 4). One dyke interpreted here as a pegmatite (photo 5) is described by Ashley as analogous to brain rock, from a specimen submitted for thin section. Although this term is used for a variety of rock textures including corals, in the exploration context it might be applied to unidirectional solidification textures (UST) which form as layered bands of quartz with downward facing crystal terminations at the top of shallow level intrusions. In photo 5 the quartz crystals terminate equally on both sides. The development of quality porphyry Cu-Au deposits is generally reliant upon multiple events of intrusion and mineralisation, commonly but not always, derived from the same magmatic source at depth. Although, the recognition of many intrusion types/events here is favourable, none are well mineralised although minor early B veins (photo 3) and more abundant barren A veins are recognised (photos 1 & 9).

<u>Hydrothermal alteration</u> varies from vein-related propylitic to a common weak to moderate pervasive phyllic overprint. Vein-related inner propylitic alteration mostly occurs as quartz veins infilled with pyrite-actinolite $\pm$ epidote $\pm$ chalcopyrite and accompanied by albite selvages (photos 6-8). In DDH STWD5, the most southerly drill hole viewed in this inspection, this mineral assemblage is well developed in a set of veins developed at a low angle to the core axis that cut the earlier commonly sheeted but baren quartz veins (photo 9). Magnetite is recognised only within the basaltic wall rocks locally as quartz vein-fill (photo 10) and with quartz in association with alteration that takes on a skarnoid appearance (photo 11), typical of the propylitic setting. Phyllic alteration characterised by sericite-silica-pyrite varies from fracture vein selvage to pervasive although generally patchy and weak (photos 7, 12, 13 & 15) and is also typical of polyphasal intrusion settings.

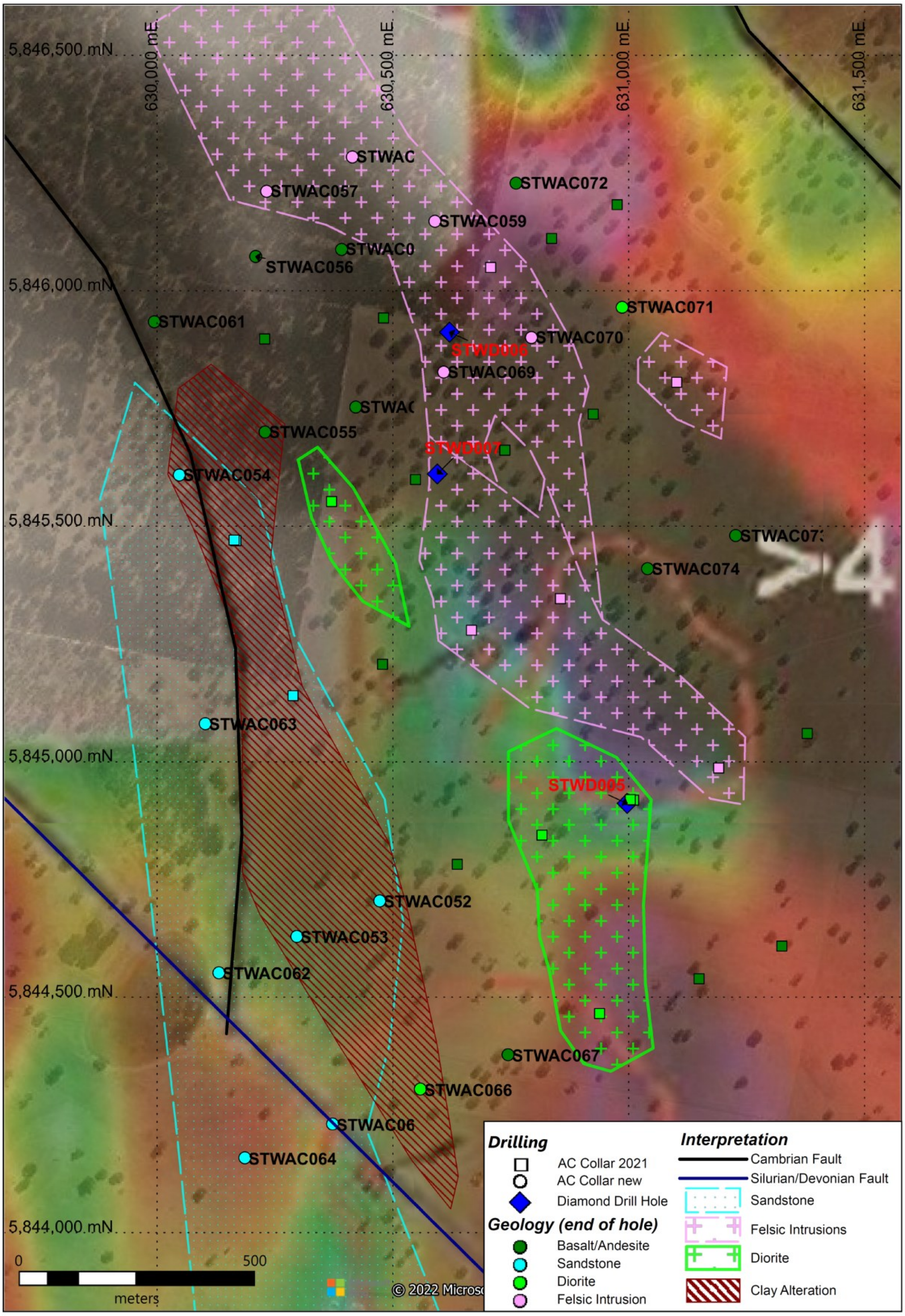

Figure 6 Locations of the drill holes examined from the Toora West prospect presented on a map of gravity with an overlay of bedrock geology derived from the air core drill holes, from Stavely Minerals data.

Drill hole STWD8, bored towards an interpreted buried magnetic feature, was in progress at the time of this visit and so was not subject to rigorous logging. From about 200m down-hole wall rock silica-magnetite alteration has the appearance of hornfels (photo 14). Epidote-albite selvages are developed adjacent to fractures rather than only quartz veins as for the drill holes to the south, and appear to contain progressively increased actinolite down hole within breccia fill and (photo 13 & 14) wider vein selvages (photo 15), although probably overprinted by retrograde sericite-chlorite alteration. Some petrology is required here to verify that prograde actinolite is pseudomorphed by chlorite with sericite.

Mineralised quartz veins include only a minor component of the veins likely to have been derived during cooling of the host intrusions, such as Cu anomalous B veins without alteration selvages (photo 3). Barren sheeted A style porphyry quartz veins without alteration selvages are especially well developed in DDH STWD5 (photos 1 & 9) and present in other drill holes, which are typical of those formed within wall rocks in dilatant structural settings, above deeper magmatic sources. Those in DDH STWD5 are cut by mineralised veins with inner propylitic alteration developed at a low angle to the core axis. Other veins are also typical of styles which might be expected to have been derived from a deeper source rather than the host intrusion. The most obvious cases are the Cu-Au anomalous quartz-pyrite and local tetrahedrite veins in drill holes STWD5 (photos 16 & 17) and STWD6 (photos 18 & 19) which are likened to low sulphidation epithermal quartz-sulphide Au ± Cu mineralisation in the classification of Corbett and Leach (1998) and are transitional to D veins.

Many of the selvage-propylitic altered veins also do not appear to have been derived from the host intrusions. Some contain pyrite-chalcopyrite mineralisation (photos 6 & 20) while others host additional carbonate or bornite (photos 21-23). Here, bornite has been deposited from a fluid which evolved during transport from the source at depth to take on a slightly lower pH (also regarded as lower sulphidation state) in a manner similar to the evolution to the fluid responsible for the zoned Cayley or Magma Lode mineralogy. More commonly bornite occurs in the core of porphyry Cu-Au deposits with high temperature potassic alteration.

Similarly, the vein selvage inner propylitic alteration (photos 6-9) is interpreted to have been derived from a deeper level buried magmatic source and some magmatic source no doubt accounts for the brecciated wall rock silica-magnetite alteration interpreted as hornfels alteration in DDH STWD8, 345m (photo 14).

Interpretation

The abundance of intrusion types suggests Toora West as an interesting porphyry-related magmatic system. However, none of these intrusions contain significant porphyry Cu-Au style mineralisation that can be related to those intrusions. Rather, the Cu-Au vein mineralisation in the drill holes examined which accounts for the Cu anomalies identified in the air core drill holes, is more typical of veins hosted within wall rocks and related to deeper porphyry source rocks. Similarly, the vein inner propylitic alteration associated with many, but not all, the Cu-anomalous veins recognised in these drill holes is typical of wall rock alteration derived from a deeper magmatic source. However, the attractive veins in the bottom of DDH STWD7 (photos 22 & 23) could have formed some distance from a source intrusion. Any target responsible for the mineralised veins and alteration in DDH's STWD5, 6 & 7 is expected to be too deep and warrant further exploration and so the southern portion of Toora West is provided with a priority C.

Drill hole STWD8 was bored to test a buried magnetic anomaly and intersects possible magnetic hornfels at 345m depth. The tenure of the inner propylitic alteration also increases down-hole with strong actinolite alteration. The northern portion of Toora West is therefore provided with a priority AB for the continuation of DDHSTWD8 to target depth and a subsequent review to place that in context.

Recommendation

The southern portion of Toora West prospected by drill holes STWD5, 6 & 7 has been satisfactorily tested and so is provided with a priority C, unless any remaining untested portions might be provided with a priority BC.

The Northern portion of Toora West is provided with a priority AB for completion of DDH STWD8 to determine whether that drill hole might vector towards a porphyry Cu-Au style exploration target within economic range.

REGIONAL PROSPECTS

Air core drilling to refusal has sought to gain geological and geochemical information from below the 20-50m thick cover sequence in the vicinity of Toora West and other regional prospects. These data as geochemical, alteration and rock type signatures typical with porphyry systems have prompted diamond drill testing at depth described above. Much of this, exploration program has been guided by gravity data as the more dense intrusions, dominated by diorite-tonalite varying to dacite, display higher gravity intensities, especially where silicified. By contrast, the host Cambrian volcanic host rock sequence is less dense, especially where sericite-chlorite-clay altered. Permeable and reactive wall rocks such as tuffs are particularly susceptible to alteration which may extend considerable distances from the source intrusion in these rock types.

Percussion chips from only some of the anomalies generated by the air core drill program were examined in this review, as much of these data have been superseded by the diamond drill program. More emphasis was placed upon the regional air core drill program.

<u>STWAC031</u>
Air core drill hole STWAC031 is located about 300m ESE of the down-hole termination of diamond drill hole STWD008 described above. Exploration identified 3m @ 0.11% Cu from 45m down-hole and 1m @ 0.18% Cu from 50m which appear to be within the hypogene environment below the level of chalcocite enrichment. Chips of the upper intercept are reported to contain quartz-pyrite-chalcopyrite veins but were not viewed in this inspection. For the lower intercept, diorite with pervasive green sericite alteration is cut by B veins with pyrite and minor chalcopyrite and selvages of white sericite. This alteration and mineralisation is typical of porphyry Cu-Au deposits (Corbett, 2019), although the STWA031 retrograde character would be expected to overprint the prograde alteration in DDH STWD008, if the two systems are related.

The alteration and mineralisation identified in STWAC031 represents a quality exploration target and should be followed up with a <u>priority AB</u>.

<u>STWAC030</u>
Air core drill hole STWAC30 hosts 3m @ 0.17% Cu from 45m within saprolite which passed to fresh rock by 55m. Drill hole DDHSTWD007, 200m to the ENE passes from cover to bedrock at a depth of 25m. Therefore, the possibility cannot be ruled out this mineralisation contains a component of supergene Cu enrichment. The chips examined are of tonalite-diorite porphyry with coarse feldspar which has undergone intense sericite alteration characterised by coarse white mica/sericite. This phyllic hydrothermal alteration is typical of porphyry Cu-Au systems (Corbett 2019) and appears much stronger than that recognised in nearby DDHSTWD7 which bores away to the east.

Air core drill hole STWAC30 therefore warrants continued investigation as a <u>priority AB</u>.

Air core drill hole <u>STWAC041</u> bored in the vicinity of diamond drill holes STWD001 & 2, ended in lapilli tuff in which chlorite altered green clasts are set in a white sericite altered matrix. Cross-cutting B veins contain minor pyrite and anomalous Mo is reported. This wall rock alteration of a highly permeable host could have extended some distance from the intrusion to which it is related and so is not a quality exploration vector towards a porphyry Cu-Au system. Here, the presence of B veins in an incompetent rock is encouraging. The adjacent air core drill hole STWAC042, 400m to the NE ends in sericite altered dacite porphyry cut by B style quartz-pyrite veins, in an area tested by diamond drill holes STWD001 and 2.

STWAC041 is therefore provided with a priority B for further investigation.

STWAC062

Air core chips are dominated by a long intersection of non-magnetic chlorite altered wall rock basalt, with trace chalcopyrite reported on fractures.

S29 & S41

The S41 target represents a gravity high within a larger gravity low, at the NW end of several lines of grid air core drill holes (figure 7), in an area of about 70m of basalt cover. Air core drill hole STAC071 located within the gravity high identified dacite porphyry in which chlorite gave way to strong silica-sericite alteration with weak pyrite. The adjacent air core drill hole STWAC070, some 400m to the NE, within the gravity low intersected a coarse porphyritic andesite with clay alteration below 40m of basalt cover. This clay alteration may have continued within permeable wall rocks for about another 1.75km the NE along the grid line to include clay altered andesite wall rock intersected in air core drill holes STAC069 and 081. On the adjacent grid line 1.75 km SE (figure 7), additional dacite porphyry with strong to intense sericite-pyrite alteration was intersected below about 40m of basalt cover in air core holes STWAC008 & 9 the SE. Again the dacite passes to the NE along that grid line to strong clay-sericite altered andesite wall rock in drill hole STAC017, the intensity of which declines 400m further NE along that grid line to air core drill hole STAC079.

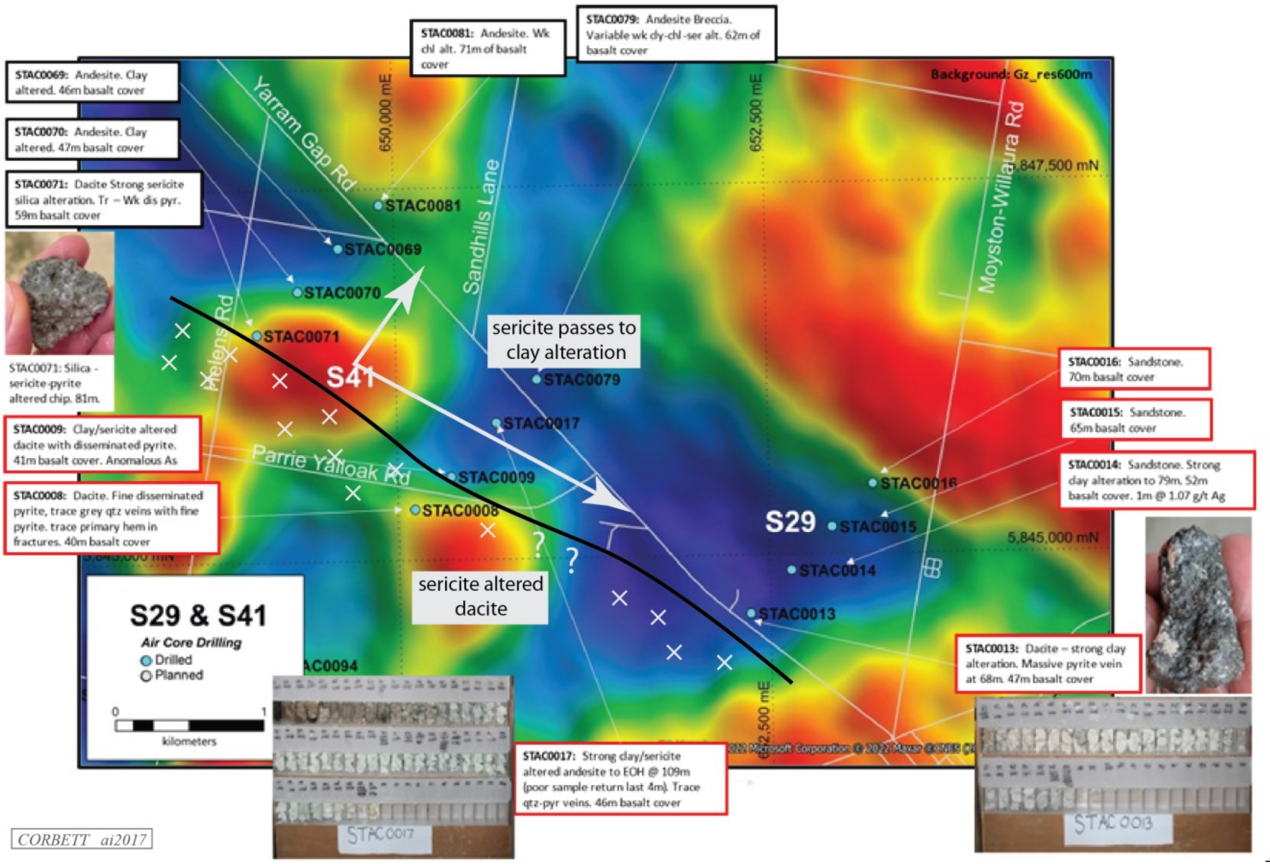

Figure 7 The S29-S41 target showing alteration zonation within a dacite intrusion and adjacent wall rocks.

At S29, four km to the SE from STAC071 which is within the S41 gravity high (figure 7), a line of air core drill holes (STAC013-16) within the adjacent gravity low penetrated in the order of 60m of basalt cover to intersect a clay-pyrite altered dacite within clay altered sandstone.

These data from S29 and S41 are consistent with the model that silica-sericite altered intrusions, such as in STAC071, might represent gravity highs, whereas the enclosing chlorite-sericite-pyrite altered basalt wall rocks are more likely to be manifest as gravity lows and these gravity lows might become more intense as sericite passes laterally to clay alteration, especially if within permeable and reactive tuff or lithic sandstones. The data to hand could therefore represent a portion of a zoned porphyry-related hydrothermal system in which a core silica-sericite altered intrusion complex passes to marginal wall rock hosted argillic alteration. The data to hand suggests this hydrothermal system might be related to a NW oriented intrusion, of possible dacite composition (figure 7).

It is recommended closer grid air core drilling further test, with a priority A, the S41-S29 anomalies for the presence of any mineralised intrusions likely to occur in the centre of the hydrothermal system zoned in 3 dimensions.

Nekeeya

The Nekeeya prospect alteration and mineralisation lies south of the Navarre Minerals Morning Bill Prospect within the Glenlyle Project.

At Morning Bill, several diamond drill holes, bored to target a buried 4 km wide magmatic magnetic anomaly, intersected wall rocks within a NNW trending belt of Dryden-Stavely Volcanics, with anomalous Au, Ag, Zn, Pb and Cu. This mineralisation is analogous to carbonate-base metal style Au mineralisation (Corbett and Leach, 1998) formed within wall rocks above a magmatic source. Although the epithermal mineralisation style and setting above an interpreted buried magmatic source is analogous to the Cowal Au deposit, Morning Bill at Glenlyle lacks the important dilatant structural character that facilitated formation of the Cowal mineralisation. At Cowal NW trending sheeted veins formed during a transient component of sinistral strike-slip movement on the NS structural bled ore fluids from the magmatic source at depth to the epithermal setting of mineral deposition, analogous to the Cayley Lode setting. There is no apparent deviation in the structural grain at Glenlyle from the regional NNW trend (342.5^{o}) and so this system lacks the dilation required to bleed significant ore fluids from the magmatic source at depth to the epithermal level of mineral deposition.

As carbonate-base metal Au systems are crudely zoned from depth to shallow levels as: Au-Cu-Mo -> Au-Pb-Zn -> Ag-As-Sb, Morning Bill is expected to lie well above any porphyry Cu-Au mineralisation. Sphalerite colour is a critical field tool for the identification of erosion level as it varies from deep to shallow as Fe-rich black sphalerite, through increased Zn contents to brown -> red -> yellow and finally white Zn-rich sphalerite.

At Nekeeya extensive air core drilling (figure 8) transects a broad several km wide gravity high which partly encloses several gravity lows. The elevated gravity anomaly appears to correlate with andesite which has undergone chlorite-epidote alteration within the air core rock chips, whereas clay altered mudstone has been identified in the the gravity lows. There is a suggestion that the structural grain, characterised by the 340^{o} orientation of the Moyston Fault on the eastern side of Nekeeya and extending south towards the Bunninjon anomaly, might vary to 311^{o} in the central and western portion of the Nekeeya anomaly (figure 8). If this is the case, Nekeeya may exhibit a dilatant character similar to Cowal, not present at Glenlyle in the formation of the Morning Bill mineralisation.

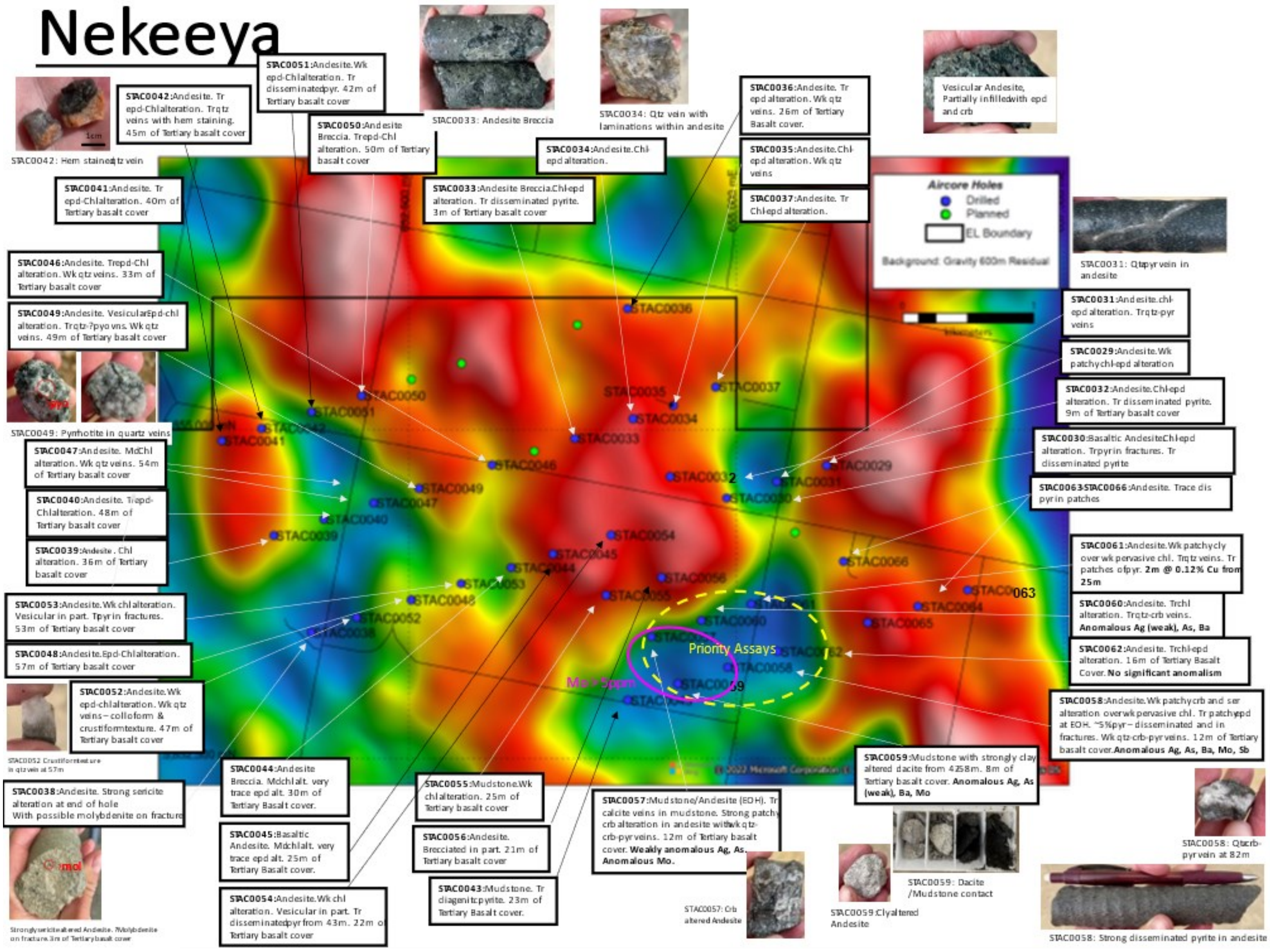

Figure 8 Summary of Stavely Minerals exploration at the Neyeeya prospect. Although the eastern margin of the gravity anomaly reflects the NNW trend of the Moyston Fault, there is a suggestion of a NW structural grain in the centre and eastern margin.

Current exploration at Nekeeya has focused upon a 1 x 2 km gravity low dominated by clay altered mudstone with lesser andesite in which air core drill holes to date have identified anomalous Ag, As, Sb, Ba, and Mo, including a 500 x 750m >5 ppm Mo anomaly (figure 8). Air core drill hole STAC058 intersected andesite from the targeted gravity low with pervasive chlorite alteration accompanied by pyrite, haematite and carbonate which contained anomalous Ag, As, Sb, Ba and Mo. This is a typical shallow level magmatic epithermal geochemical pattern above carbonate-base metal Au mineralisation and possible deeper level porphyry Cu-Au mineralisation.

In conclusion, the geological setting, wall rocks, hydrothermal alteration and geochemical signature are all consistent with the setting of Nekeeya within wall rocks well above a magmatic source in the epithermal regime and possibly some distance from any porphyry Cu-Au target. If present, a Cowal-Cayley Lode style structural setting, characterised by NW dilatant structures formed as a result of transient sinistral strike-slip movement on the NS structural grain, might provide an environment required for the formation of epithermal (Cowal), transition to porphyry (Cayley Lode) and possibly wall rock porphyry (Cadia East) mineralisation at Nekeeya. Continued exploration could include in-fill air core drill holes currently at 400m centres on lines about 750m apart, while further processing of gravity and magnetic data might investigate for the presence of a NW flexure in the structural grain that might provide encouragement to progress to a NE-SW oriented diamond drill test. Nekeeya is provided with a priority B as economic mineralisation may be deeply buried and is only likely to develop in the presence of the dilatant structural setting.

<u>Bunninjon</u>

The Bunninjon anomaly lies immediately south of Nekeeya. The NNW (340°) structural trending Mehuse Fault is developed as the western margin while the parallel Moyston Fault lies further to the east. Air core drilling has identified chlorite-epidote altered andesite within the gravity high on the eastern side of the Mehuse Fault (figure 9). By contrast air core drilling has identified a sericite overprint within chlorite-epidote altered andesite, mudstone and sandstone within the gravity low on the western side of this fault. Chips of andesite from air core STAC085 display only chlorite alteration with no pyrite.

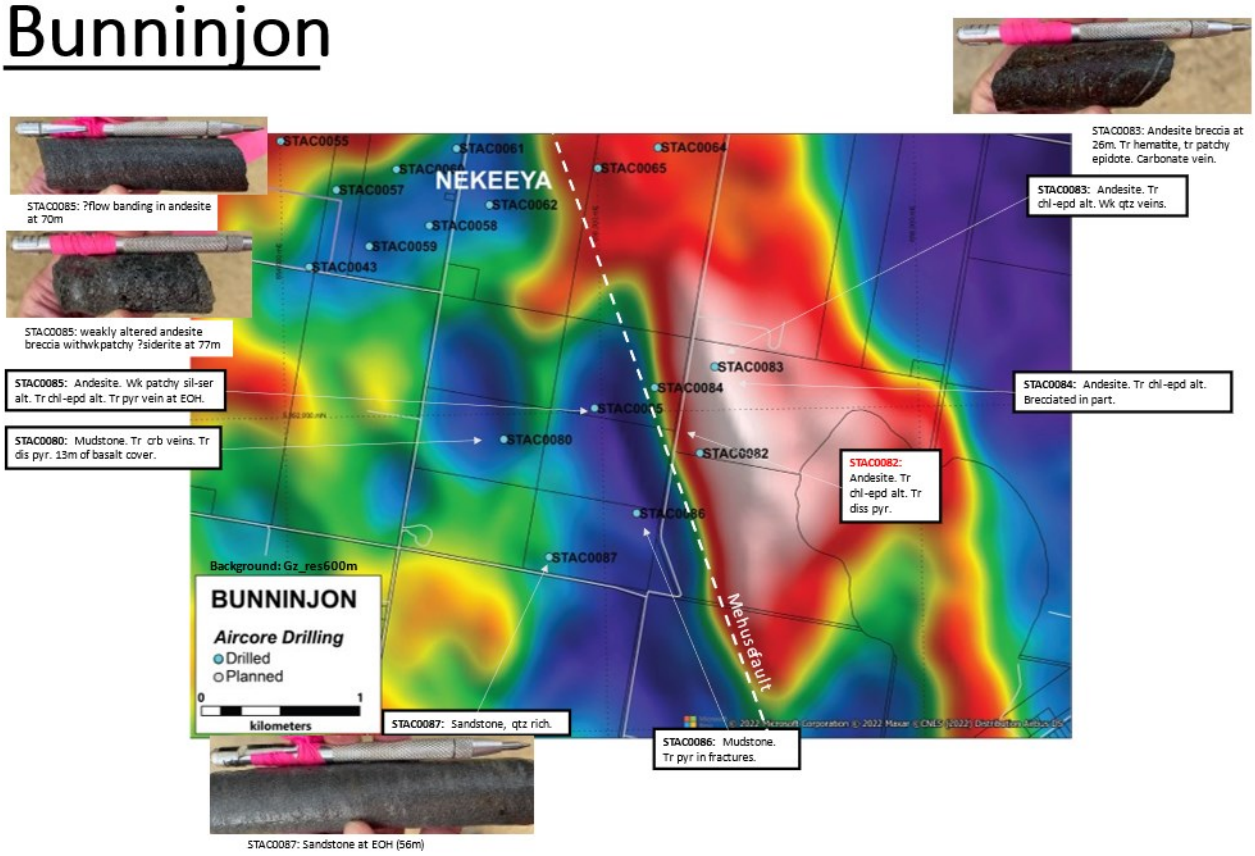

Figure 9 Stavely Minerals data for the Bunninjon anomaly.

The NNW orientation of the Mehuse Fault is not conducive to the model above for development of a Cowal style. It is recommended Bunninjon be provided with a <u>priority C</u>, to be reviewed following continued exploration at Nekeeya.

<u>Muirhead</u>

At Muirhead a 1-2km wide and greater than 2.5km long gravity low is partly surrounded by a gravity high (figure 10). Air core drilling within this gravity low identified basalt, sandstone and two intrusions types speculated as a Devonian granitoid with weak alteration and Cambrian dacite porphyry. A chip sample from 28m in drill hole STAC018 at the dacite-sandstone contact contained 1m @ 1.09 ppm Ag and 442 ppm As along with anomalous Mo. Chips of dacite from this air core drill hole from sited at the southern contact between the gravity low and high are described in petrology (Ashley, 2022) as having undergone mild potassic alteration characterised by secondary biotite replacement of primary hornblende along with the development of minor matrix quartz-Kfelspar, all overprinted by weak retrograde sericite, chlorite and pyrtie along with more pervasive kaolinite clay alteration.

In <u>conclusion</u> the very limited anomalous geochemistry, typical of a magmatic epithermal setting, was obtained from the dacite contact, common as the most likely setting for anomalous geochemistry associated with intrusion-related systems. Muirhead is provided with a priority BC for a limited air core drill program to close off the anomalous geochemistry in the region of STAC018.

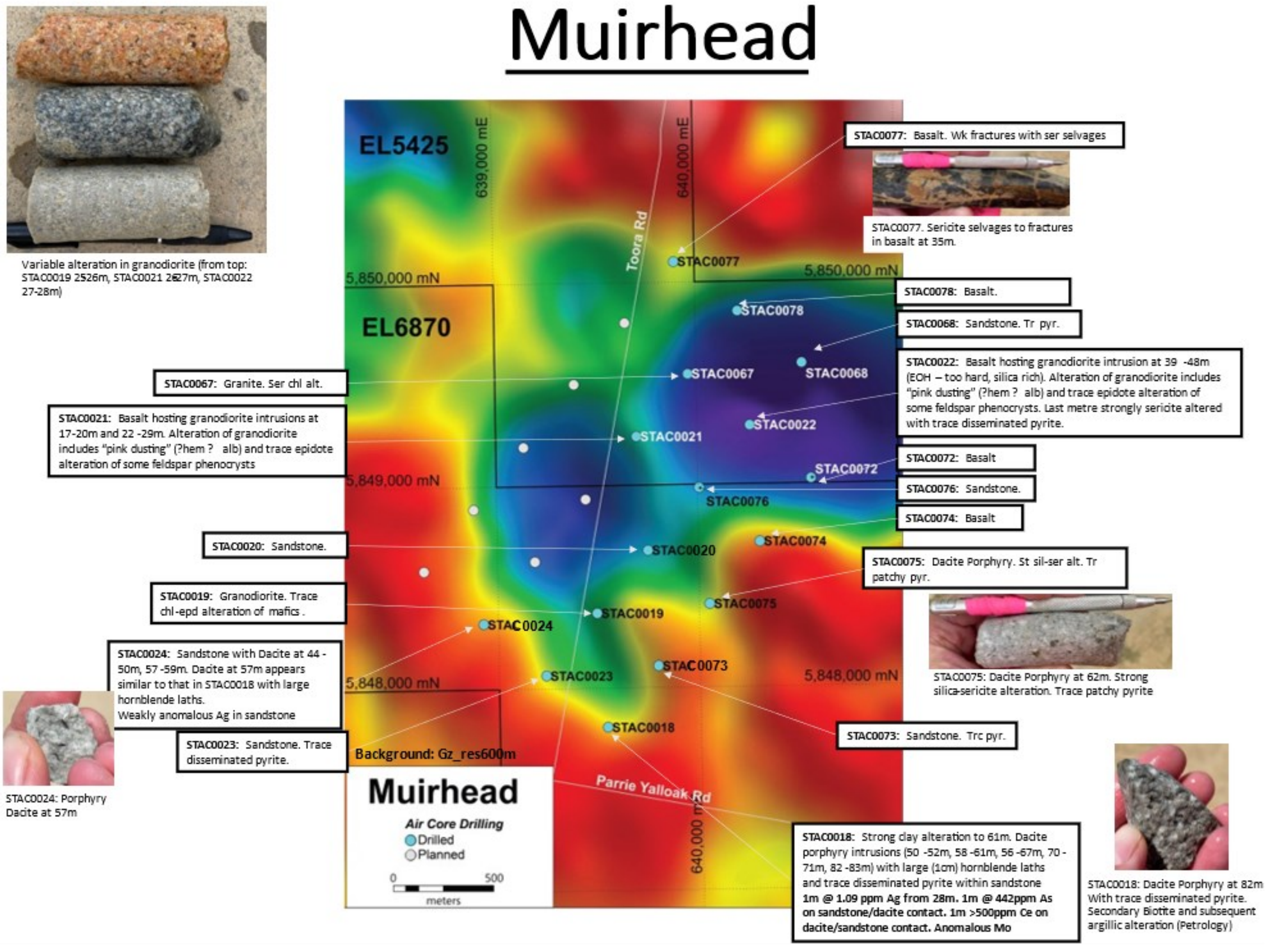

Figure 10 Stavely Minerals exploration data for the Muirhead Prospect.

S4

The S4 anomaly comprises a gravity low, in which air core drill holes identified mostly sedimentary rocks, rimmed on the southern side by elevated gravity where andesite was identified (figure 11). Chips of from air core drill hole STAC006 in the centre of the gravity low are dominated by silica-sericite altered dacite in which mafic minerals are replaced by fine grained pyrite. Silica-sericite alteration of dacite is also present within the chips from air core drill hole STAC091 more than 1km SE drill hole STAC006. Mudstone was also identified in this drill hole. Air core drill hole STAC005, 400m to the SW of STAC006, intersected a quartz vein which yielded 3m @ 2.9 g/t Ag, with anomalous As, Sb and Mo. Although not viewed in this inspection, the geochemistry of this vein is typical of the shallow crustal level magmatic epithermal vein mineralisation which is expected to account for Ag, As, Sb and Mo anomalies encountered in many prospects of the Stavely Minerals regional exploration program and also in the Navarre Minerals Morning Bill drill holes.

The S4 prospect should be provided with a priority C as sit and wait in order to see if exploration of the other anomalies provides a higher overall potential to these exploration targets. Consideration might be given to having petrology carried out on the quartz vein intersected in STAC005 (above).

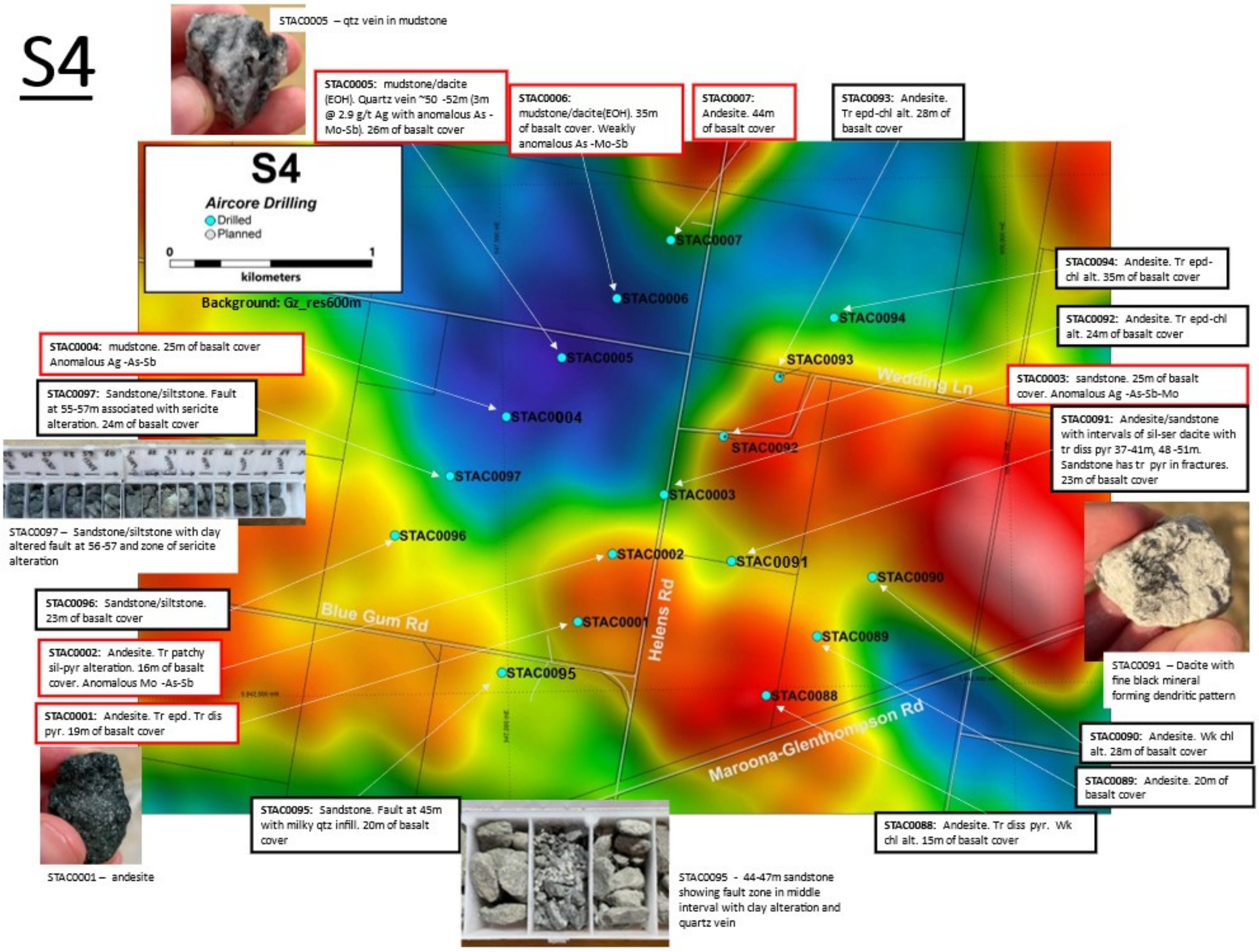

Figure 11 Stavely Minerals exploration data for the S4 Prospect.

<u>Yarram Gap</u>

At Yarram a double thickness of folded ultramafic encloses a gravity low where dacite and sandstone with anomalous As and Mo have been identified in air core drill holes (figure 12). Minor silica-chalcopyrite is hosted by gabbro in air core drill hole STAC027 located in the late ultramafic body and there is an historic record of 1.5 g/t Au.

Yarram Gap is provided with a <u>priority C</u> for further exploration at this time while evaluation proceeds of other regional targets which feature similar anomalous As and Mo, typical of the shallow crustal level magmatic epithermal mineralisation.

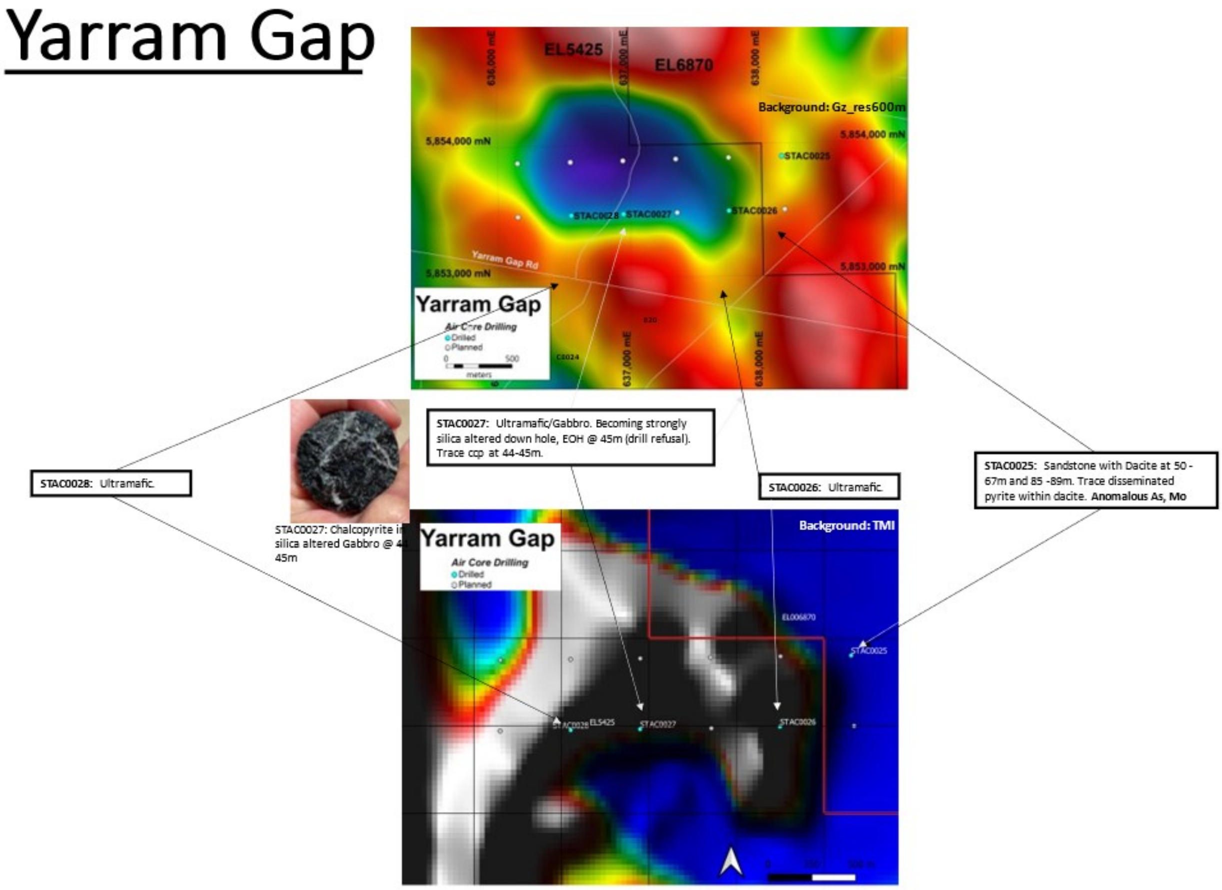

Figure 12 Stavely Minerals exploration data for the Yarram Gap Prospect.

<u>Discussion</u>

These data provide confidence for the model in use by Stavely Minerals that gravity data provides an indication of rock type and alteration. Nevertheless, there is some concern about targeting wall rocks within gravity lows rather than intrusions which are likely to host mineralisation. Therefore, it may be possible to add to that model with inclusion of a relationship between geochemistry and level of erosion above a speculated magmatic source which may be targeted as a porphyry Cu-Au. The Morning Bill prospect, which lies above a buried magmatic source, features typical carbonate-base metal style Au mineralisation, but lacks the dilatant structural setting, present at Cowal Au deposit, to form an ore system. Deep level systems of this style contain Cu while the central Zn-Pb-Au mineralisation may pass upwards to anomalous As and Sb, possibly accompanied by Ag and Ba. Mo, which is generally anomalous outside porphyry Cu systems, is present throughout, typically within veins such as that intersected in air core drill hole STAC005 (above).

REFERENCES CITED

Ashley, p., 2022, Petrographic report on fifteen drill core (including air-core) samples from western Victoria (Toora West, Regional and Thursdays Gossan Projects): unpubl. report to Stavely Minerals.

Corbett, G.J., 2007, Controls to low sulphidation epithermal Au-Ag: Talk presented at a meeting of the Sydney Mineral Exploration Discussion Group (SMEDG) with powerpoint and text on SMEDG website www.smedg.org.au

Corbett, G.J., 2012, Structural controls to, and exploration for, epithermal Au-Ag deposits: Australian Institute of Geoscientists Bulletin 56, pp 43-47.

Corbett, G.J., 2017, Epithermal Au-Ag and porphyry Cu-Au Exploration - Short course manual: www.corbettgeology.com.

Corbett, G.J., 2019, Time in porphyry Cu development – Exploration Implications: Pacrim Conference, 3-5 April 2019, Auckland, New Zealand, Australasian Institute of Mining and Metallurgy, p. 177-180.

Corbett G 2019b, Comments arising from a July 2019 review of the Stavely Cu-Au porphyry exploration project, western Victoria, Australia with appendix: Unpubl. report to Stavely Minerals Limited

Corbett G.J., 2021a, Comments on the alfa breccia and some other aspects of the Stavely Cu-Au exploration project, Western Victoria, Australia: Unpubl. report to Stavely Minerals Limited

Corbett, G., 2021b, Exploration of epithermal Au-Ag and porphyry Cu-Au deposits: ProExplo 2021, Lima, Peru.

Corbett, G., 2022, Low sulphidation epithermal Au-Ag fluid evolution: XXI Argentina Geological Congress, Puerto Madryn, Chubut, Argentina, 7 March 2022.

Corbett, G.J., and Leach, T.M., 1998, Southwest Pacific gold-copper systems: Structure, alteration and mineralization: Society of Economic Geologists Special Publication 6, 238 p.

PHOTOS

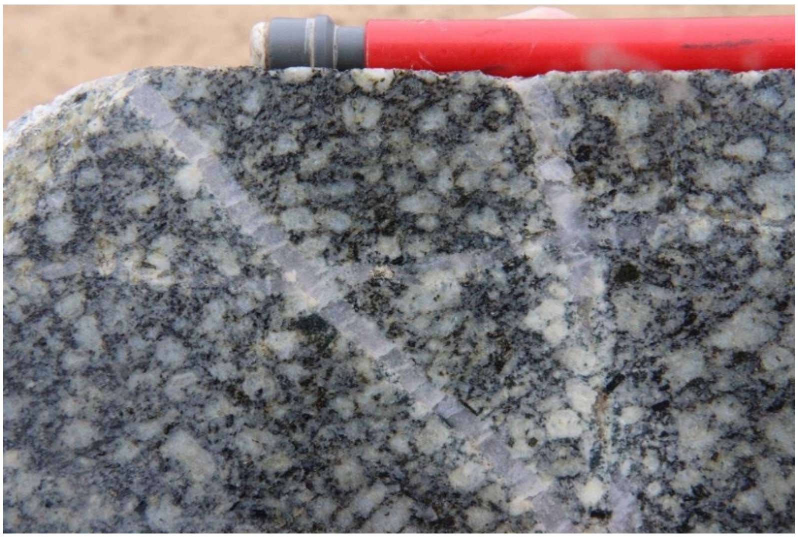

Photo 1 Toora West coarse grained tonalite porphyry with two generations of A veins, one strained and a weak core parallel later vein, DDH STWD5, 144.4m.

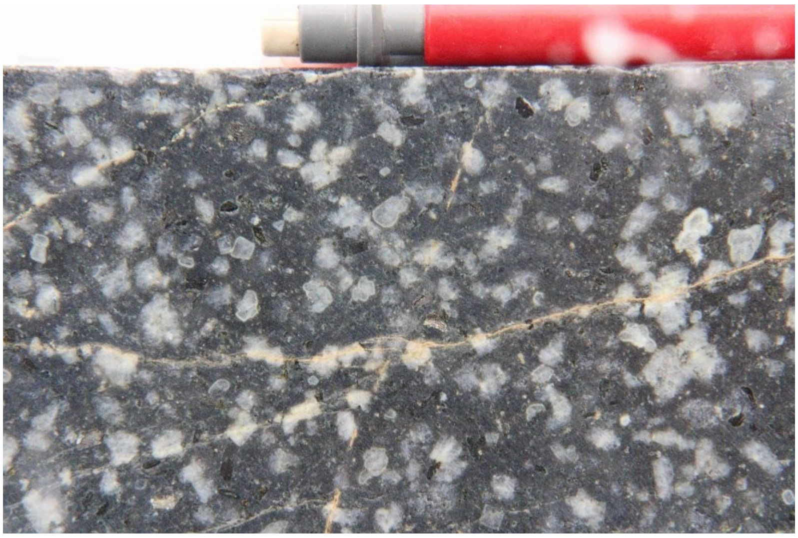

Photo 2 Toora West diorite porphyry, STWD7, 312.1m.

Photo 3 Toora West diorite porphyry with abundant hornblende and a B style quartz-pyrite vein at the right hand side, STMD6, 50.6m.

Photo 4Toora West equigranular diorite, STMD6, 158.3m.

Photo 5Toora West pegmatite composed of interlayered doubly terminated quartz and albite STMD6, 108.2m.

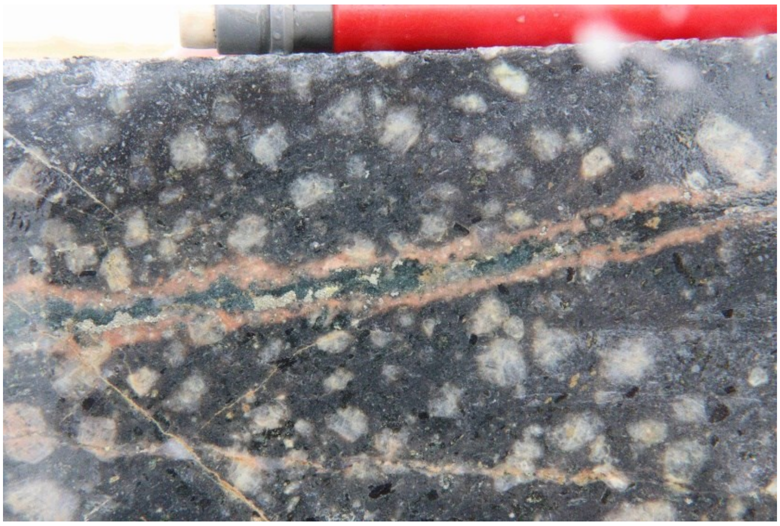

Photo 6 Toora West diorite porphyry cut by quartz-pyrite-chalcopyrite-actinolite vein with albite selvage, STWD7, 352.8m, 0.14% Cu.

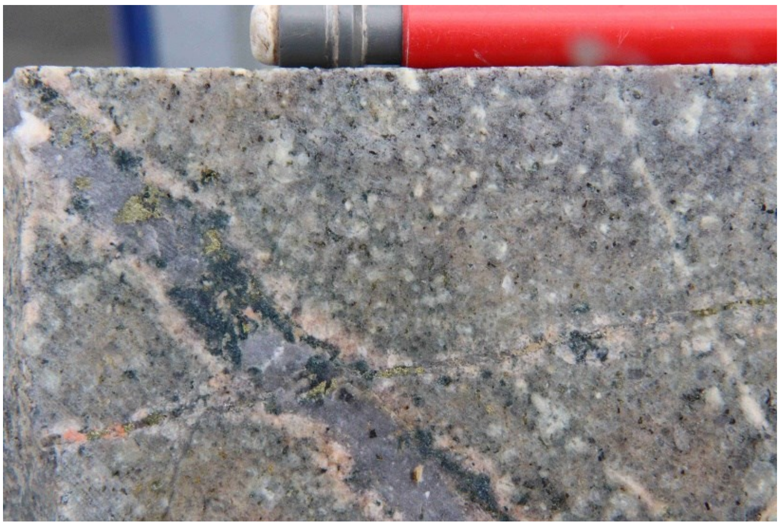

Photo 7 Toora West microdiorite cut by quartz-pyrite-chalcopyrite-actinolite vein with albite selvage and pervasive moderate sericite overprint, STWD7, 273.2m, 0.13% Cu.

Photo 8 Toora West vein propylitic alteration characterized by vein actinolite with albite selvages, STWD7, 190.5m.

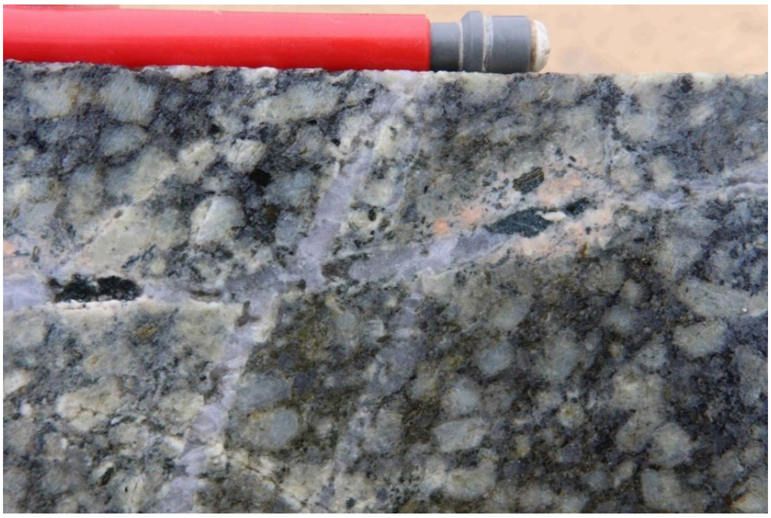

Photo 9 Toora West Tonalite with sheeted A style barren quartz veins cut by quartz-actinolite veins at a low angle to the core axis with albite selvages, STWD5, 156.7m.

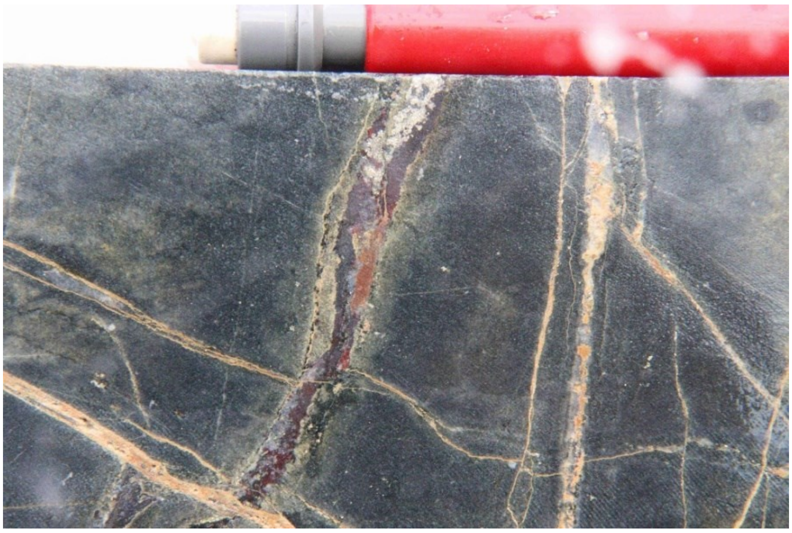

Photo 10 Toora West basalt with quartz-pyrite-magnetite-haematite vein, STWD7, 295.4m.

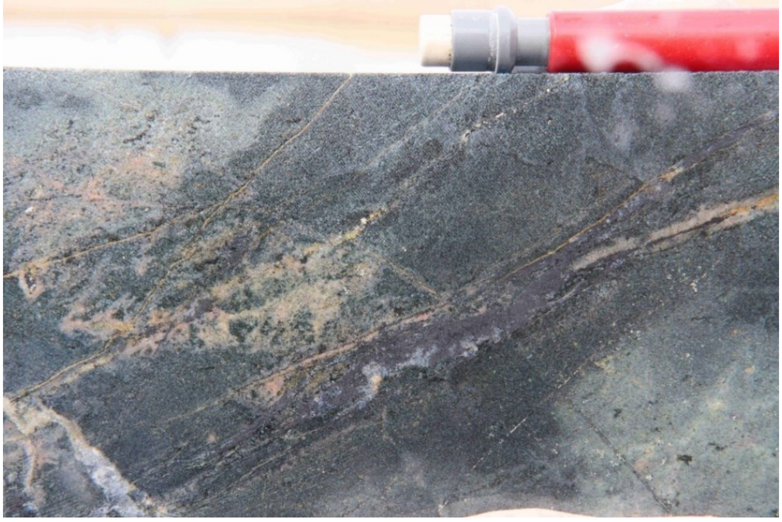

Photo 11 Toora West basalt cut by quartz-magnetite vein with albite-actinolite skarnoid alteration, STWD7, 427.4m, 0.05% Cu.

Photo 12 Toora West microdiorite with strong pervasive silica-sericite-pyrite (phyllic alteration), more intense adjacent to B vein and fractures, SMTD7, 66.5m.

Photo 13 Toora West diorite porphyry with albite-epidote selvage to carbonate filled fracture at the top and pervasive sericite at the bottom, DDHSTWD8, 239.2m.

Photo 14 Toora West brecciated hornfels-like silica-magnetite alteration with in-fill of quartz-albite-epidote-pyrite-actinolite, STWD8, 345.7m.

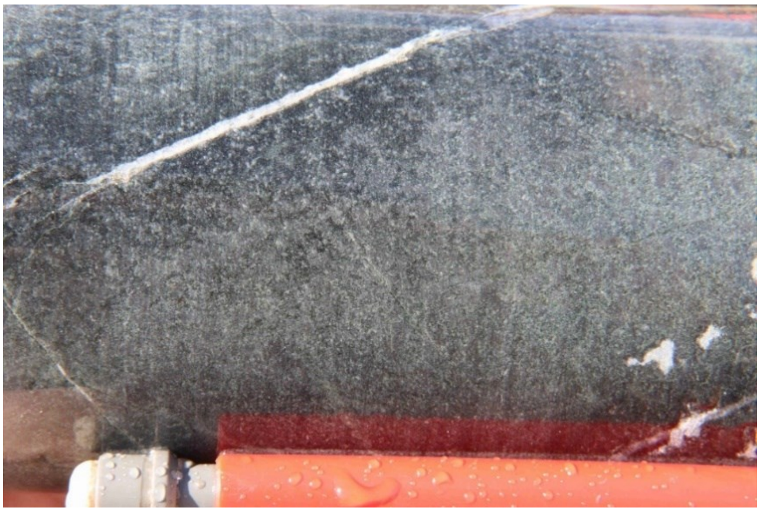

Photo 15 Toora West microdiorite in which the actinolite selvage to carbonate-filled fracture extends into the wall rock and shows some retrogression to chlorite with sericite, DDHSTWD8, 341.9m.

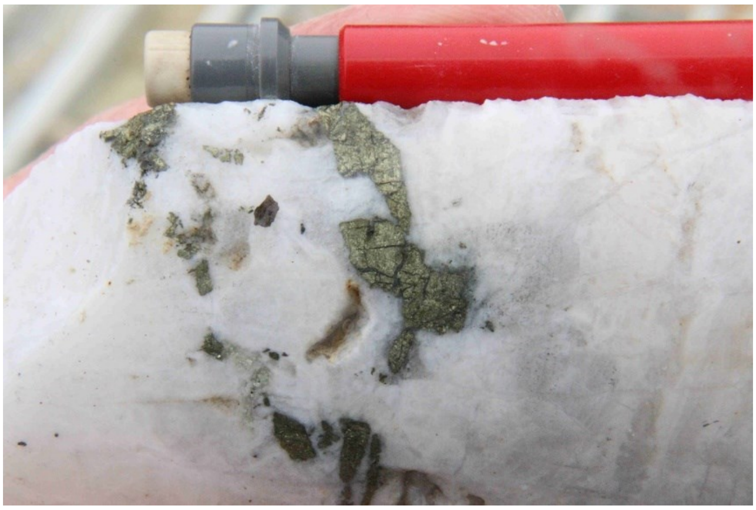

Photo 16 Toora West quartz vein with coarse pyrite-chalcopyrite and possible fracture fill chalcocite, STWD5, 274.4m, 60cm @ 4.27g/t Au, 2.3g/t Ag & 0.3% Cu.

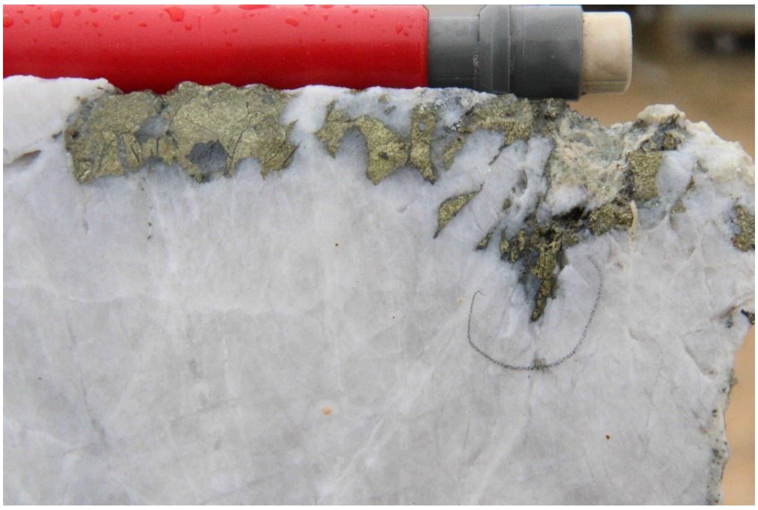

Photo 17 Toora West quartz vein with coarse pyrite-chalcopyrite-tetrahedrite, STWD5, 286.8m 60cm @ 8.72g/t Au, 36.6g/t Ag, 471ppm Sb, 131ppm As & 1.85% Cu.

Photo18 Toora West hornblende diorite porphyry cut by quartz-pyrite-chalcopyrite, STMD6, 69.7m.

Photo 19 Toora West quartz-pyrite-chalcopyrite vein, transitional between a porphyry D vein and low sulphidation deep quartz-sulphide Au ± Cu style, STMD6, 174.6m.

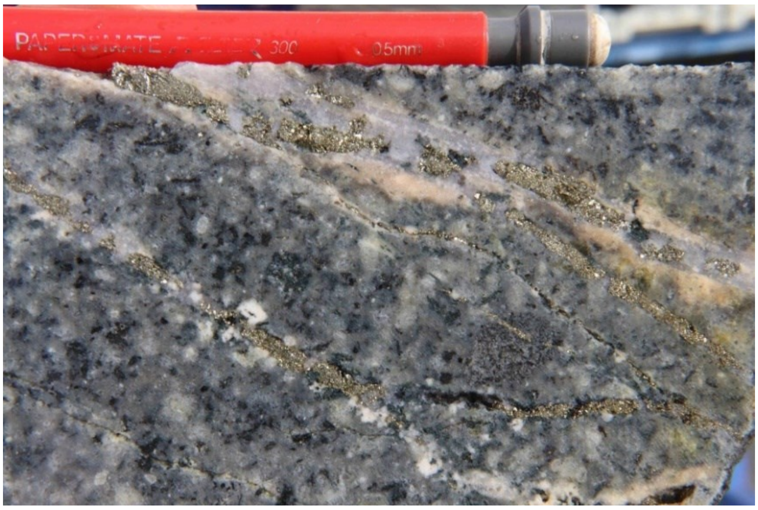

Photo 20 Toora West diorite porphyry cut by quartz-pyrite-chalcopyrite vein with albite selvage, STMD6, 56.8m.

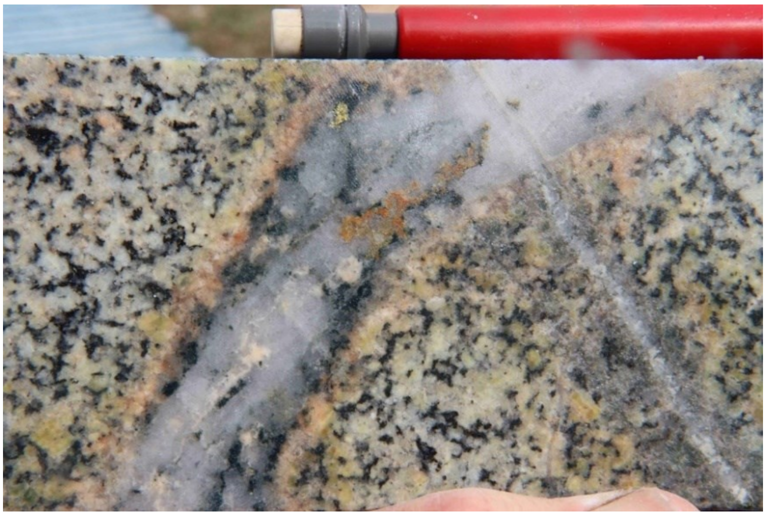

Photo 21 Toora West equigranular diorite cut by quartz-carbonate-pyrite-chacopyrite-actinolite with albite selvage cut by quartz vein with sericite selvage and moderate pervasive sericite alteration, 555ppm Cu, STWD7, 449.7m.

Photo 22 Toora West basalt cut by quartz-carbonate-pyrite-chalcopyrite actinolite vein, STWD7, 187.1m, 0.13% Cu.

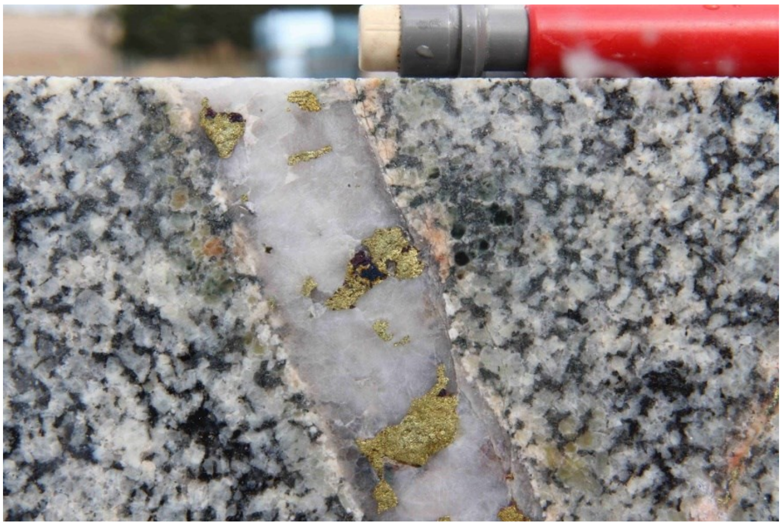

Photo 22 Toora West equigranular diorite cut by massive A-like vein with chalcopyrite-bornite, STWD7, 467.5m, 0.15% Cu.

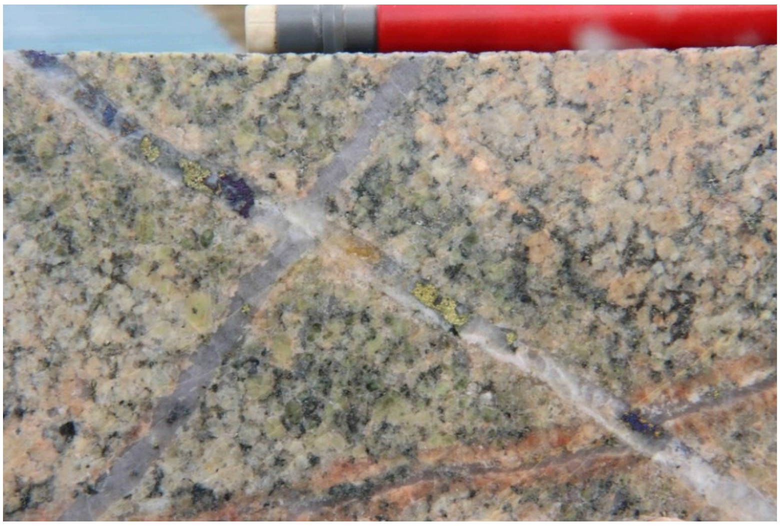

Photo 23 Toora West sericite altered equigranular diorite cut by early massive quartz and later quartz-pyrite-chalcopyrite-bornite vein, STWD7, 496.5m, 0.1% Cu.