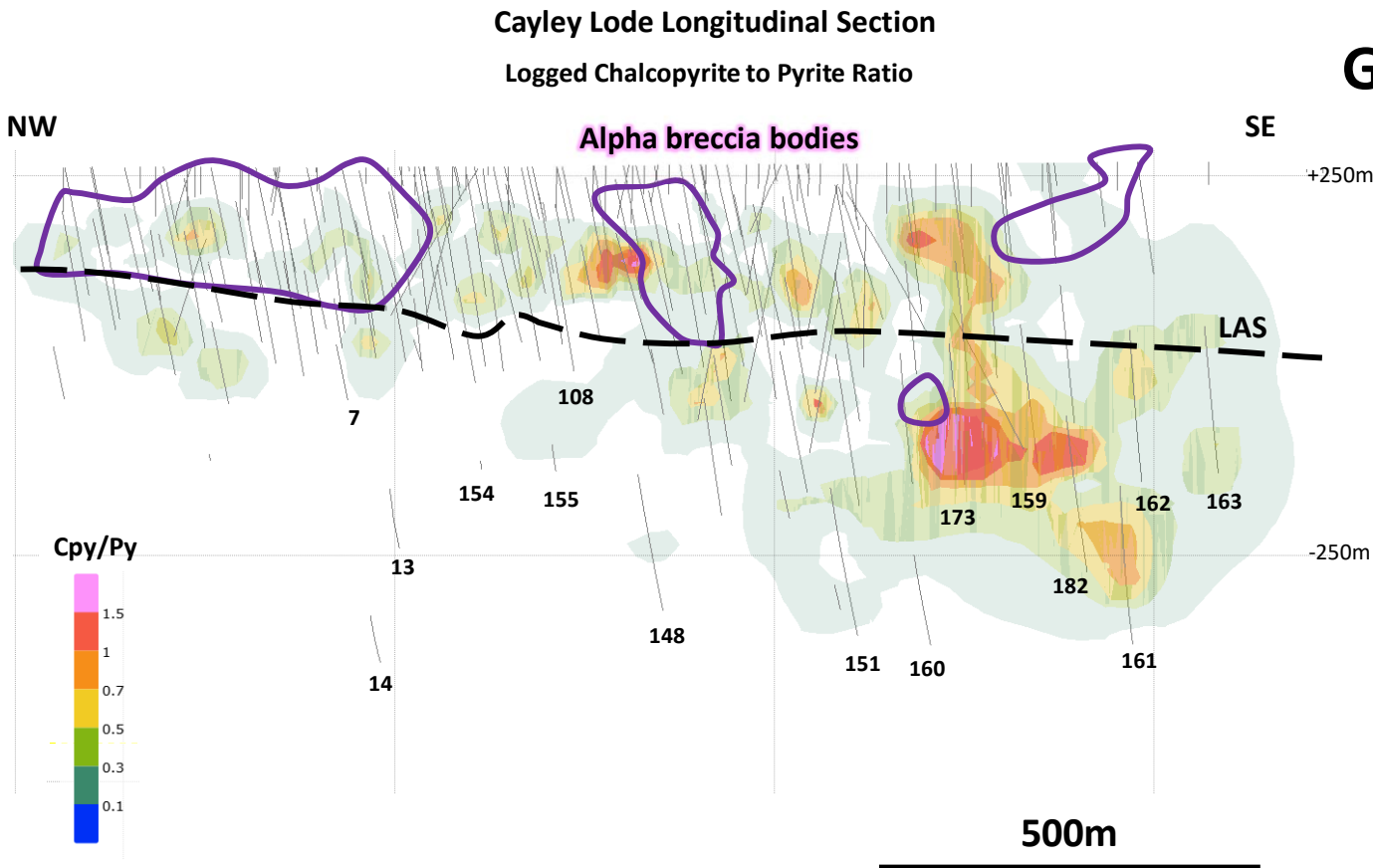


# Stavely Project, Victoria: Geological Interpretation and Exploration Implications

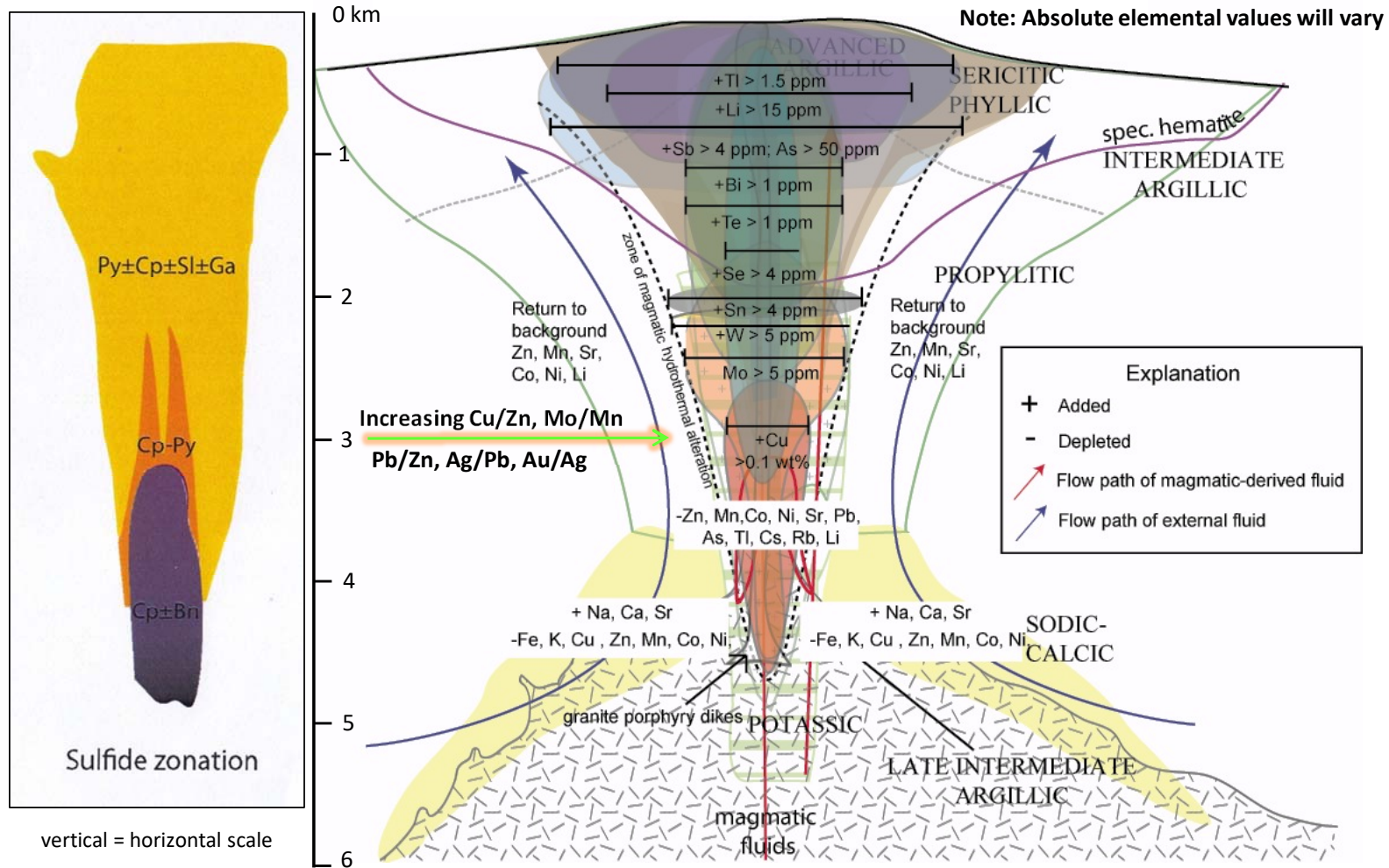


Presentation to the  
Board of Directors for  
Stavely Minerals Ltd  
by Steve Garwin  
19<sup>th</sup> of October 2022

LeapFrog model for the Cayley Lode Cu deposit showing the ratio of logged chalcopyrite to pyrite in drill-holes, the low-angle structure (LAS) and Alpha breccia bodies (the drill-traces are projected up to 50m away from the section-line). The zones of high cpy/py in the southeastern part of the deposit are considered to indicate potential for a concealed porphyry copper deposit.

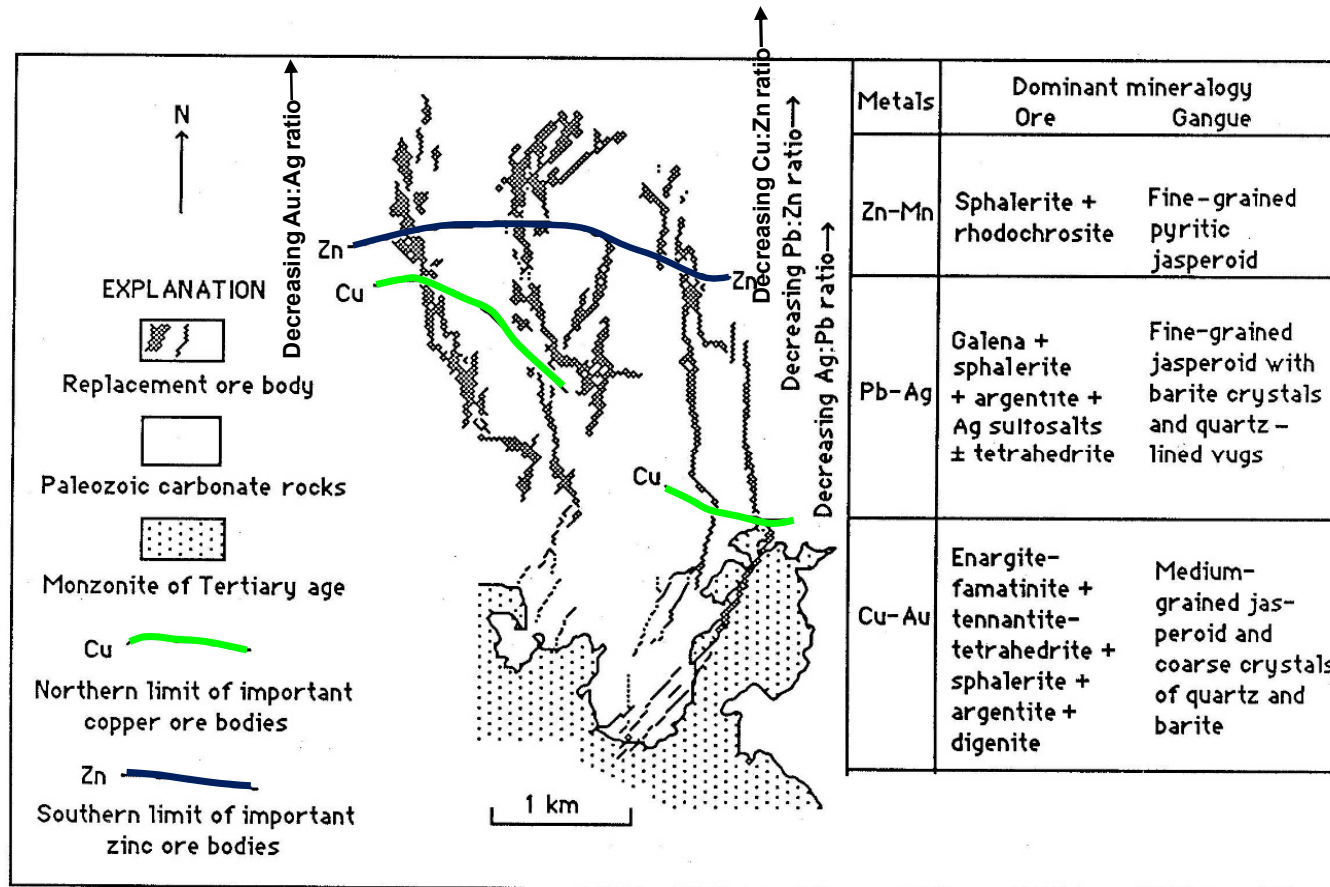
For a comprehensive summary of results, refer to 11th of October presentation and trip report.

Vertical geochemical dispersion model in porphyry Cu-(Mo-Au) systems as summarized by the MDRU-study, using the Yerington porphyry deposit in Nevada as an example (Cohen, 2011 and Halley et al., 2015). In this model, the top of the causal intrusion is located about three kilometers below the paleo-surface. Metals are zoned above the porphyry center, characterized by proximal, Cu-Mo; intermediate Sn-W; distal As-Sb-Li-Tl; and the 'plume' elements of Bi-Te-Se that extend from the proximal- through to the distal-environments.



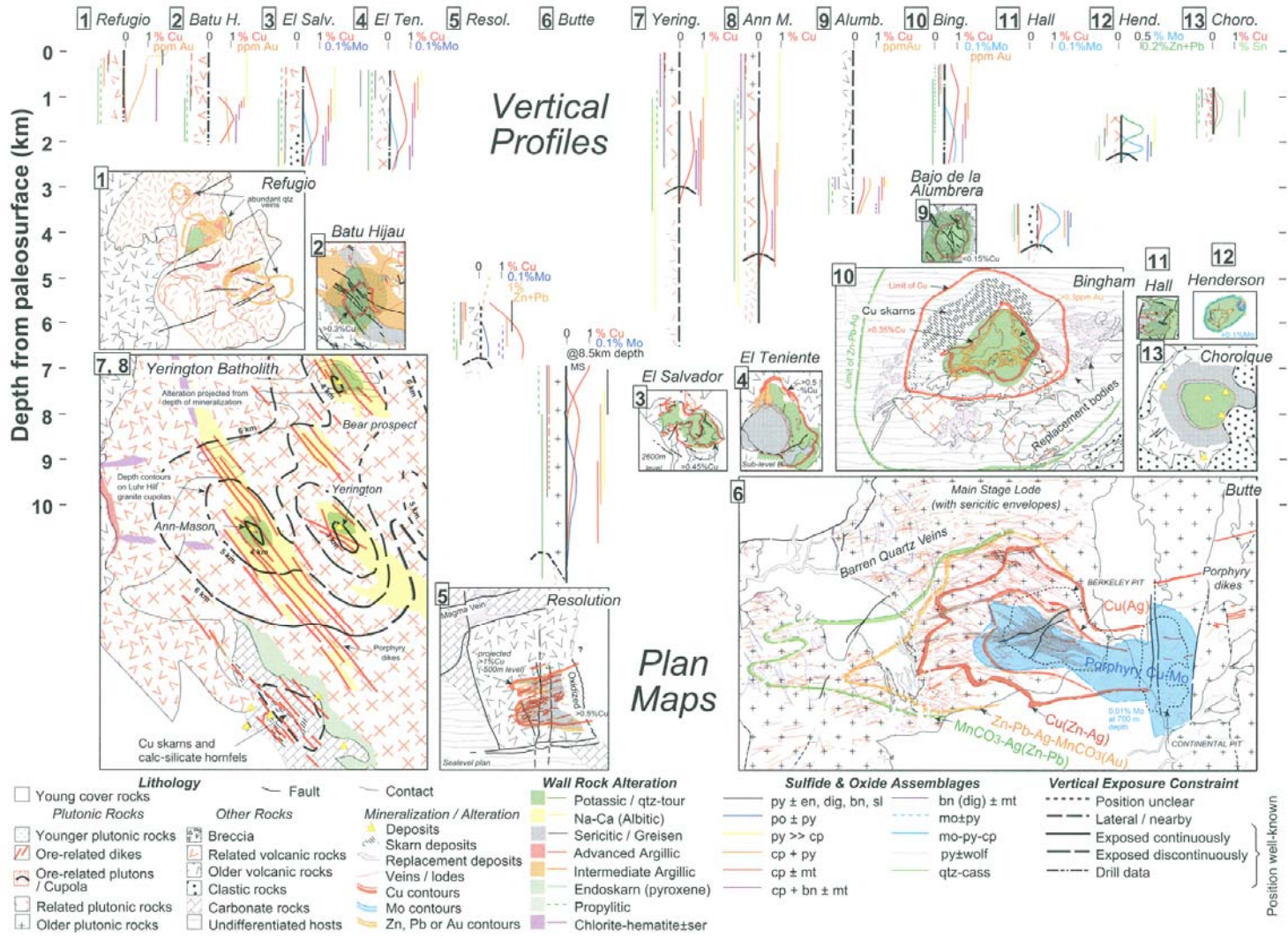
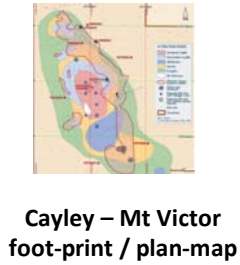
There is a consistent element distribution in global porphyry systems. Local discrepancies in metal sequence may reflect late argillic overprints or varying H<sub>2</sub>O:CO<sub>2</sub>:S proportions of the ore fluid. Distribution of Au-Ag varies and is partially controlled by oxidation / sulfidation state, temperature and metal-complex speciation.

Zoning of polymetallic replacement, “manto-like” deposits – plan view of Main Tintic, Utah, USA (after Morris, 1968). Note that the steeply-dipping, Pb-Zn-replacement bodies within limestone extend up to 4000 m from the margin of the mid-Tertiary causal monzonite stock. The district metal zoning consists of proximal Cu-Au-(Mo) through intermediate Pb-Ag to distal Zn-Mn. The ratios Cu/Zn, Pb/Zn, Ag/Pb, Au/Ag and Mo/Mn increase with proximity to the heat-source (causal stock).

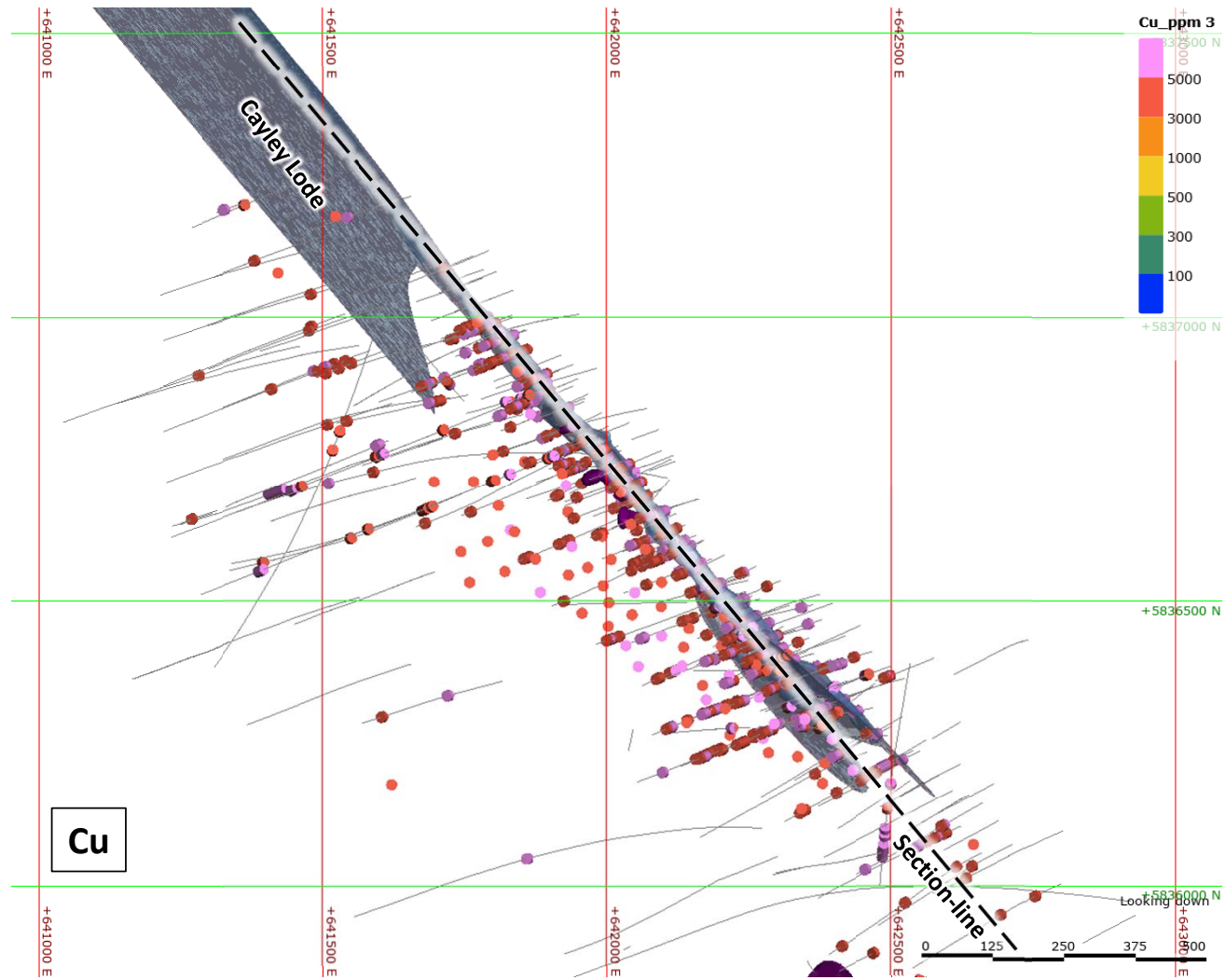


Generalized geological maps and vertical profiles through selected global porphyry systems (Seedorff et al., 2005), showing the hydrothermal alteration plan-map of the Cayley Lode – Mt Victor area in the Stavely project, western Victoria. The Cayley – Mt Victor area in the Stavely project, western Victoria. The Cayley – Mt Victor foot-print is large and comparable to the that of many global porphyry systems.

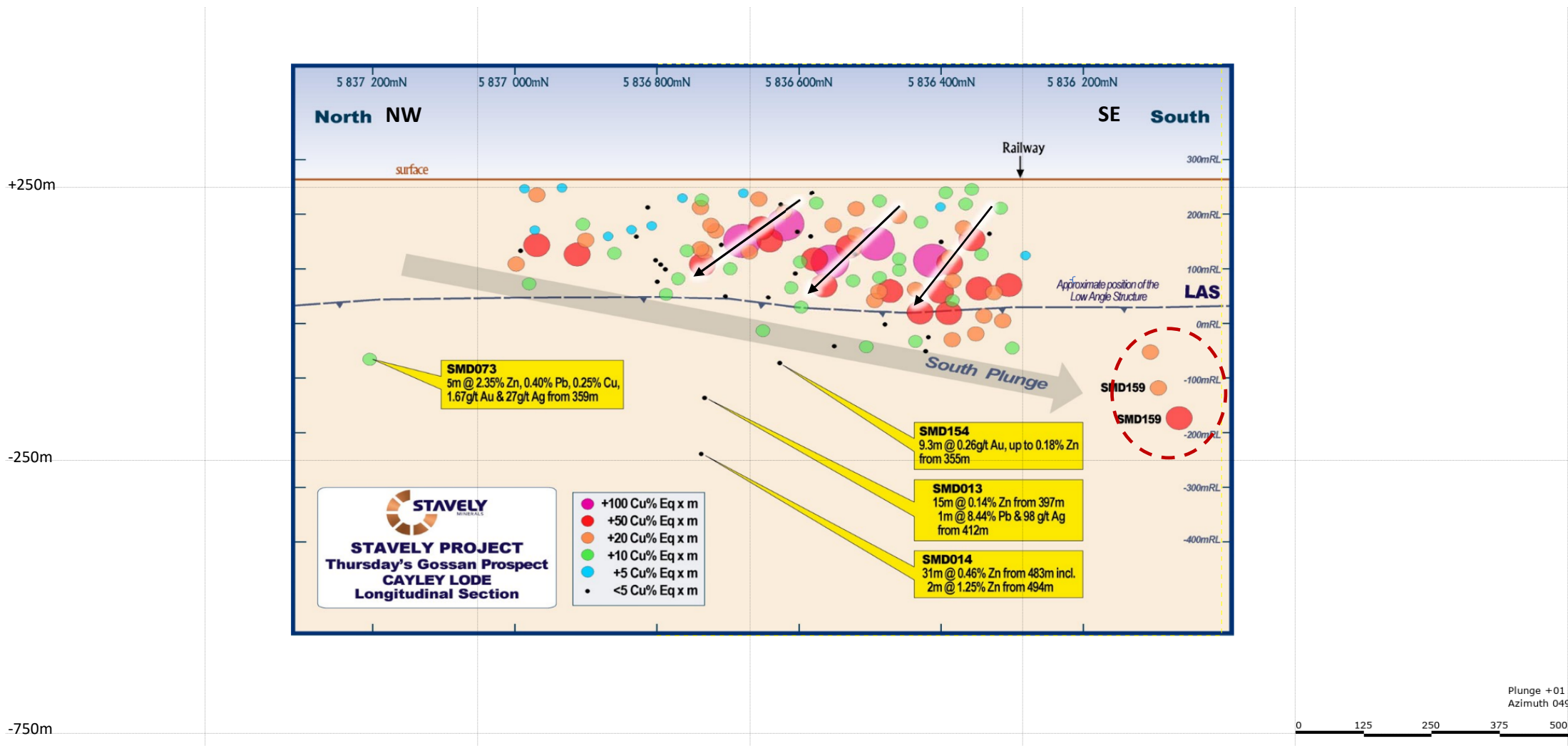
## Cayley Lode area – Stavely project, western Victoria



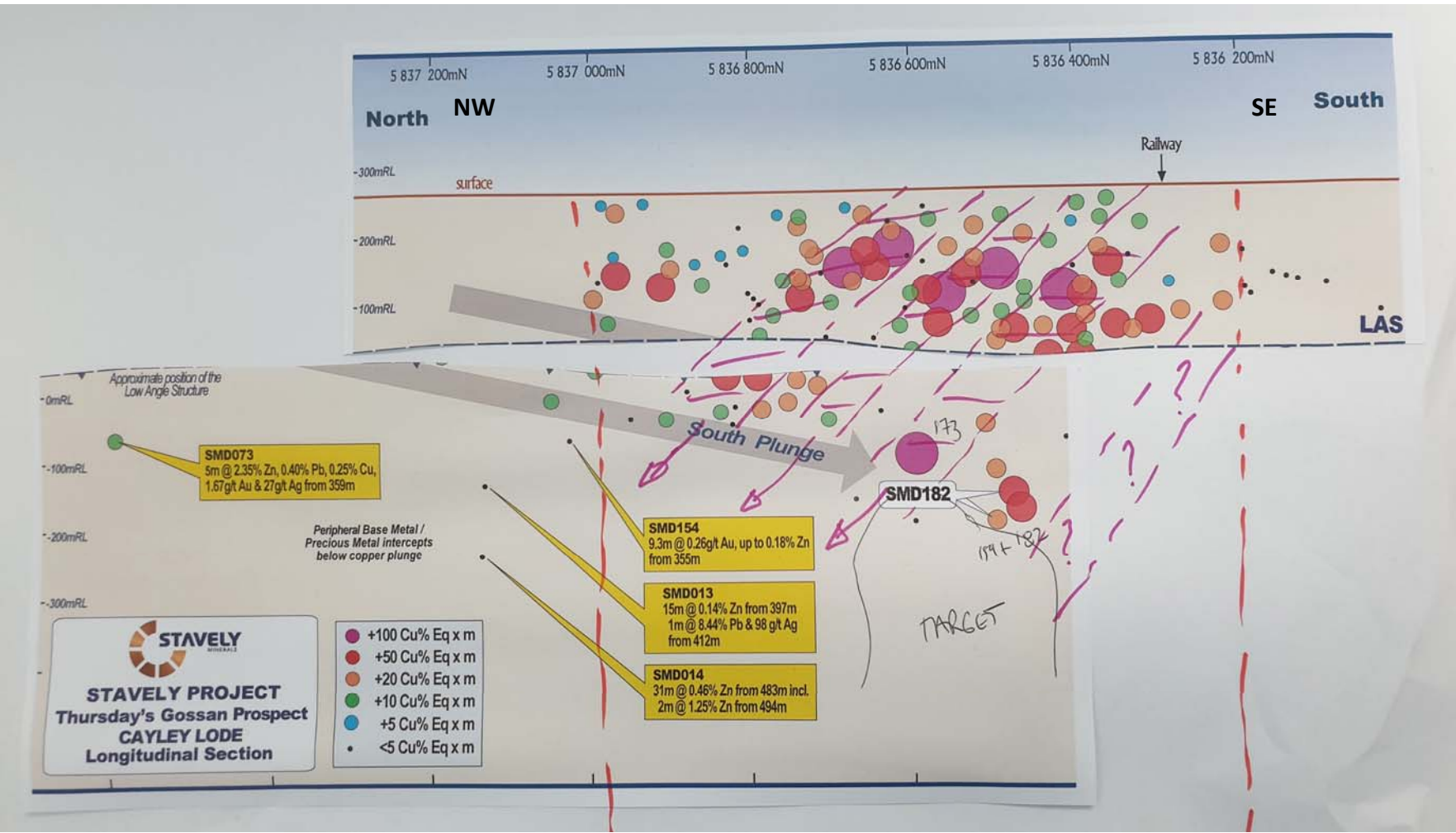
Plan-view of the simplified geological models for the Cayley Lode (provided by Stavelly) showing drill-hole intervals that exceed 0.3 wt.% copper (3000 ppm Cu). The overlay shows the location of the longitudinal-section illustrated in the following figures.



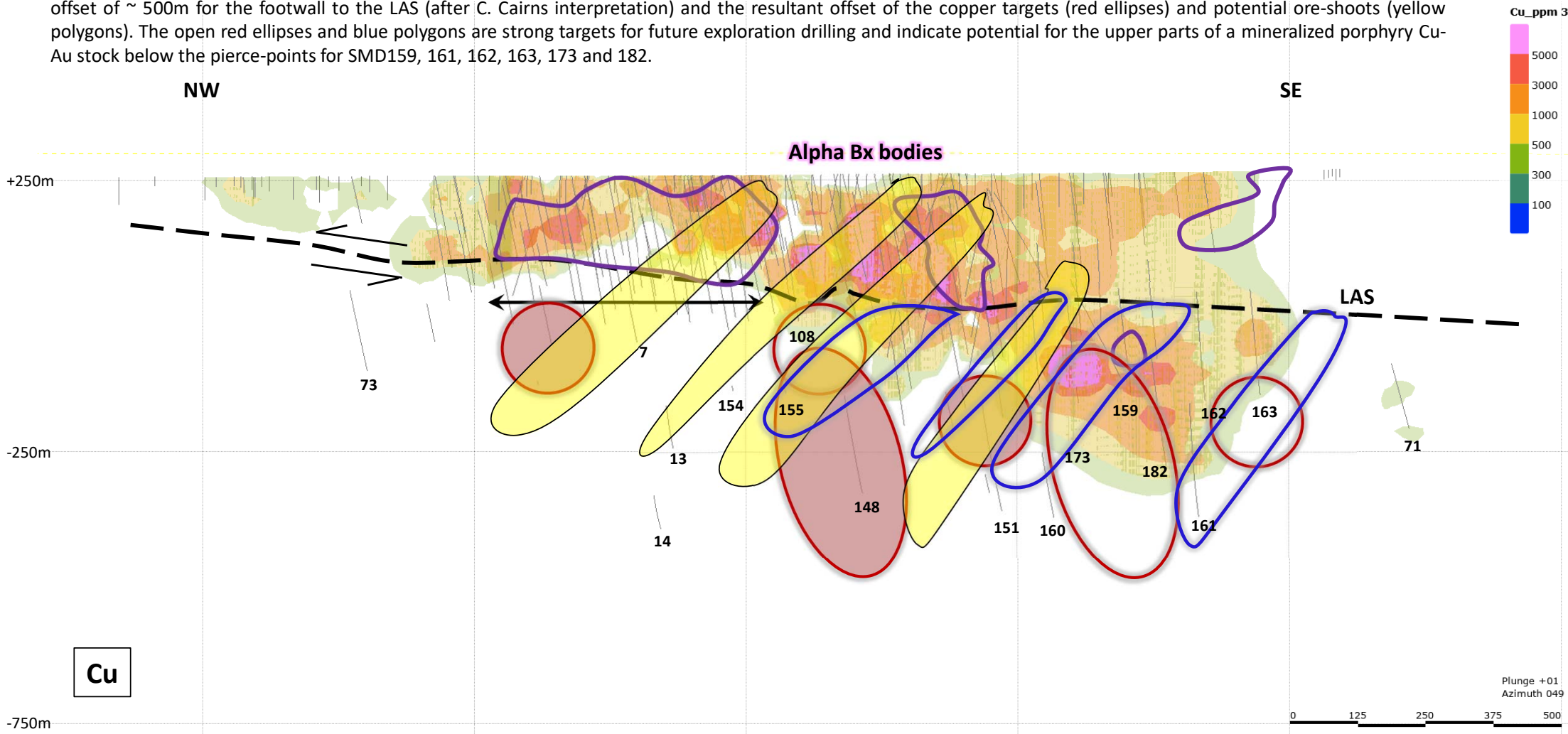
Longitudinal-section of the Cayley Lode, showing Cu Eq wt.% \* meter intercepts, and the approximate trace of the Low-Angle Structure / LAS (Stavelly Minerals, Sept. 2021). The approximate location of this section is indicated in the previous figure. Note the gentle southeasterly plunge inferred by the team and the potential for more steeply-plunging ore-shoots above the LAS (black arrows in overlay). The southeastern part of the lode is open at depth and towards the southeast (SMD159, 173 and 182 region, dashed red outline in final overlay).



Longitudinal-section of the Cayley Lode, showing Cu Eq wt.% x meter intercepts, and the approximate trace of the Low-Angle Structure / LAS (Stavely Minerals, Sept. 2021). The section has been restored by Chris Cairns to undo about 500m of apparent offset along the LAS. Cairns infers a moderate northwest plunge to the ore-shoots and extends these beneath the restored LAS. Potential exists for a mineralized porphyry cupola beneath the SMD 159, 173 and 182 pierce-points in the southeastern part of the Cayley Lode (target drawn by Garwin).

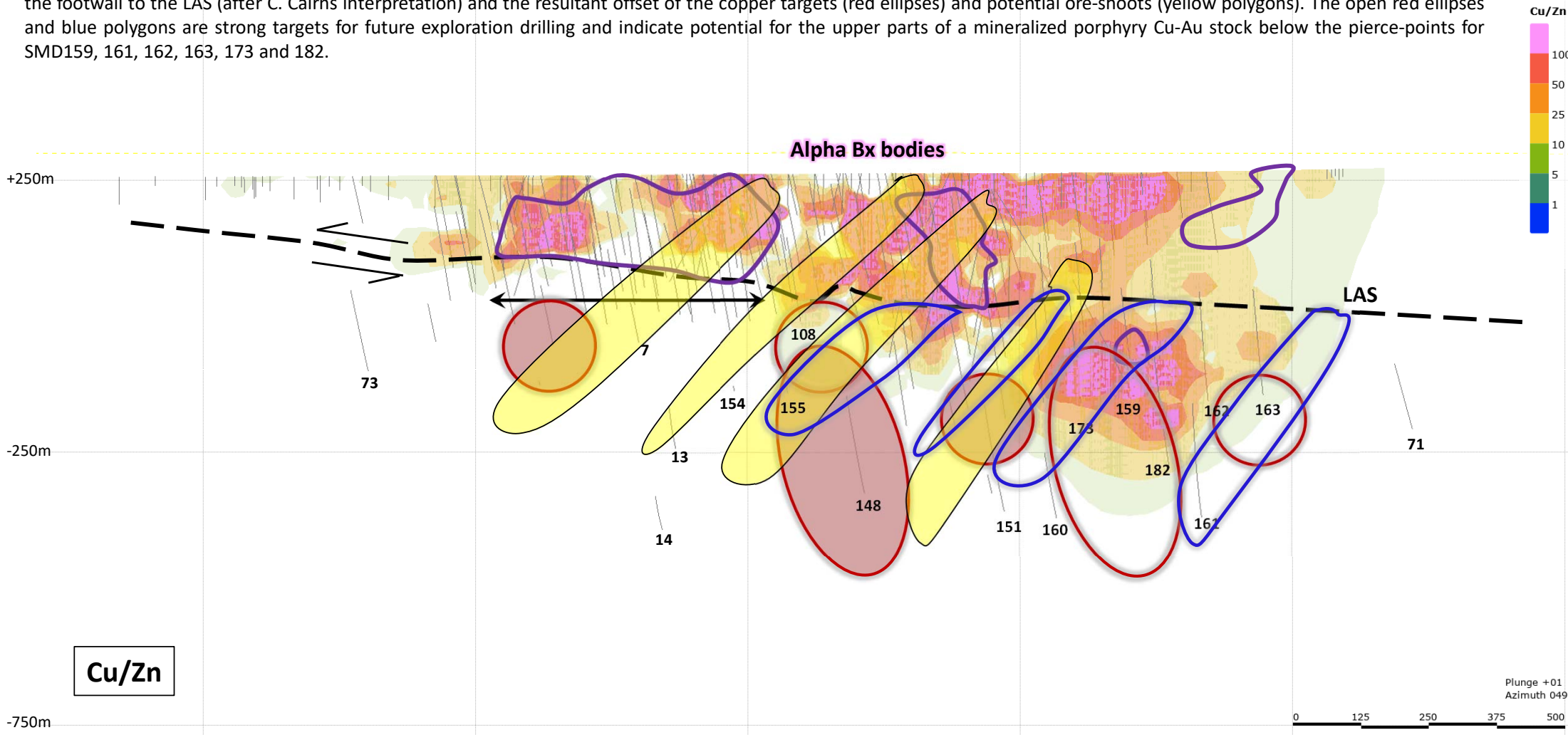


Longitudinal-section of the Cayley Lode, showing a model for copper (ppm) in drill-hole. The drill-hole traces are projected from up to 50m away from the section-line. The first overlay shows the approximate trace of the Low-Angle Structure (LAS) and Alpha breccia zones for reference. The second overlay indicates copper targets (red elliptical outlines) and potential ore-shoots (purple polygons) below the LAS (red elliptical outlines). The subsequent overlays show the restoration of an inferred apparent left-lateral offset of ~ 500m for the footwall to the LAS (after C. Cairns interpretation) and the resultant offset of the copper targets (red ellipses) and potential ore-shoots (yellow polygons). The open red ellipses and blue polygons are strong targets for future exploration drilling and indicate potential for the upper parts of a mineralized porphyry Cu-Au stock below the pierce-points for SMD159, 161, 162, 163, 173 and 182.

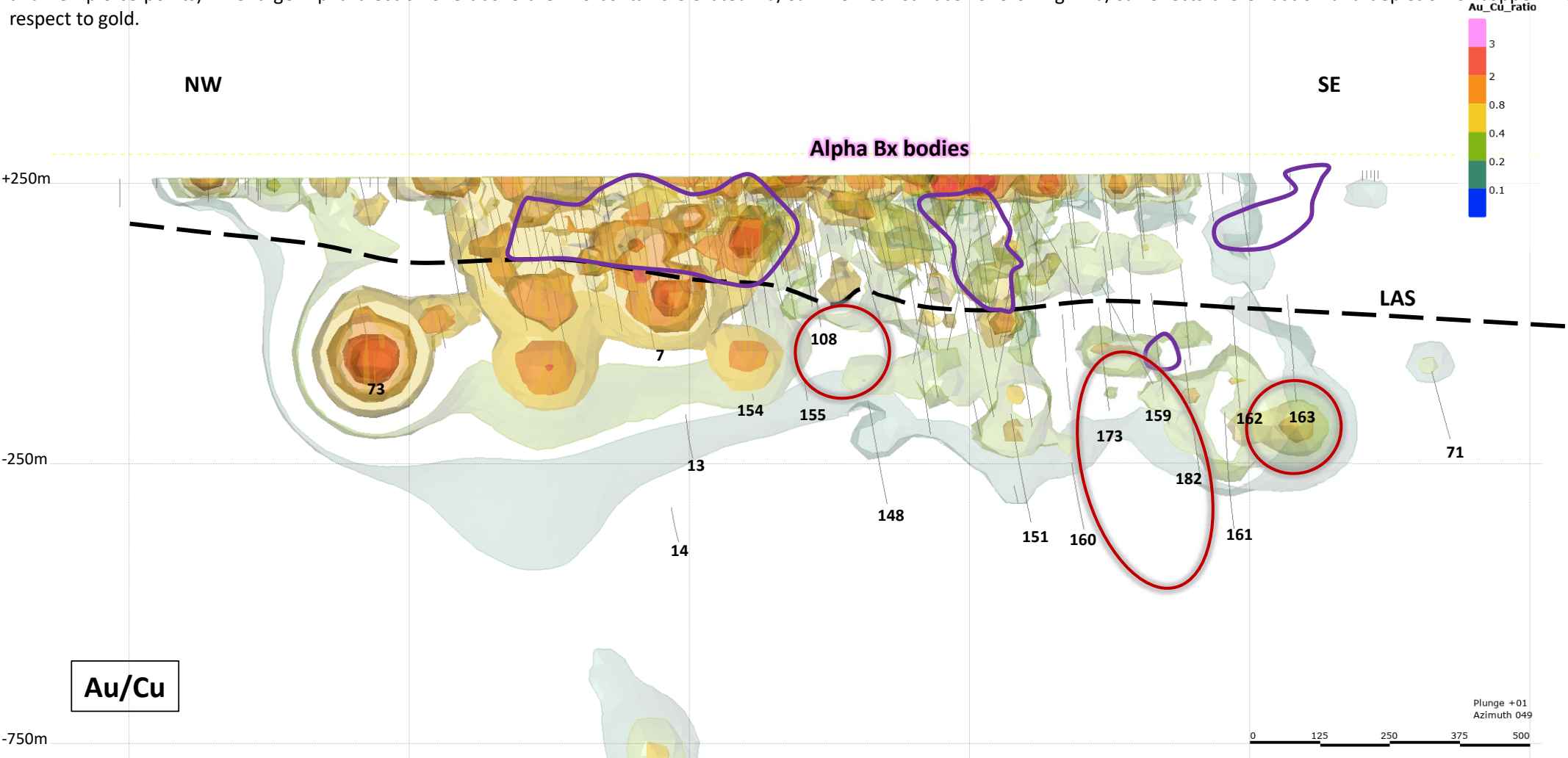




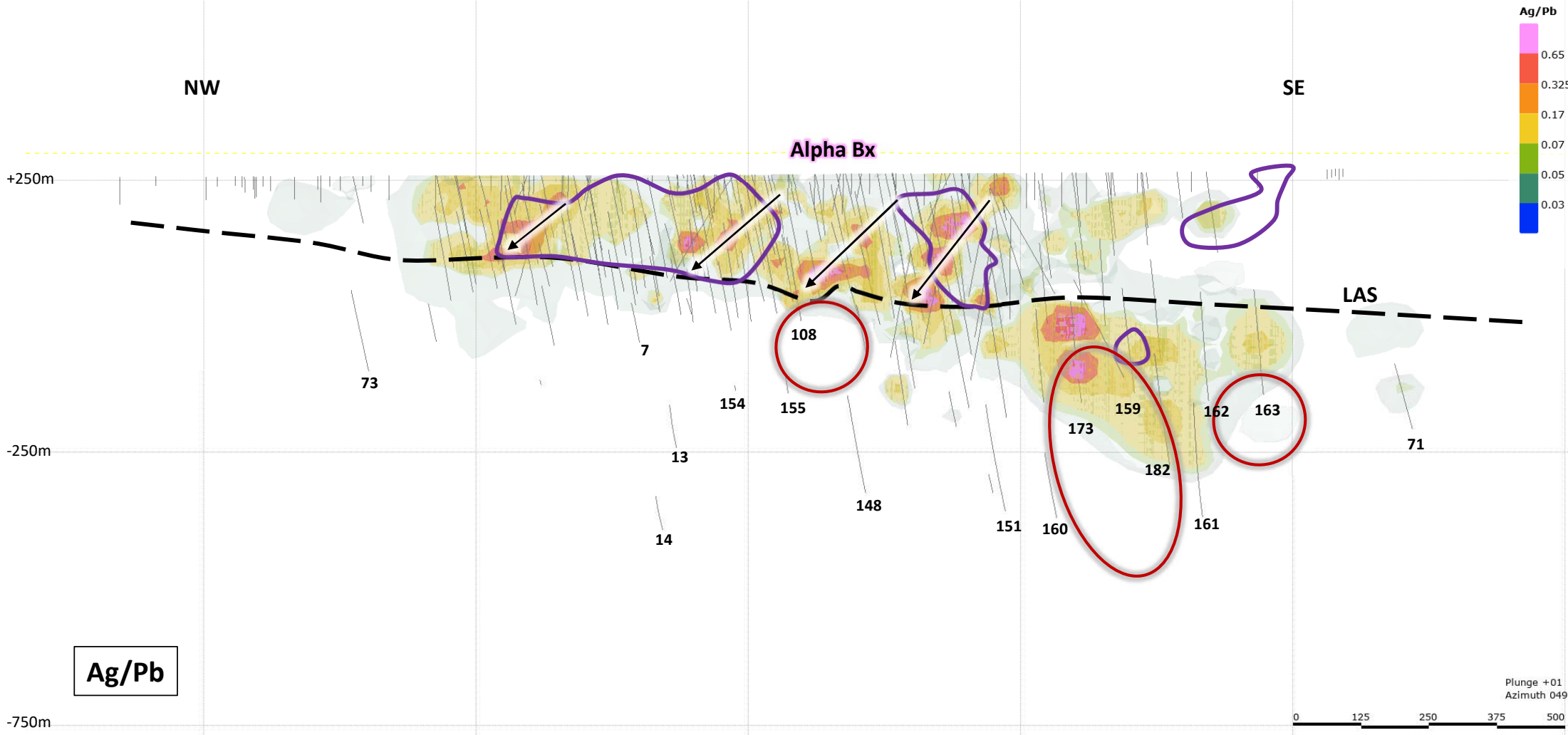
Longitudinal-section of the Cayley Lode, showing a model for Cu/Zn in drill-hole. The drill-hole traces are projected from up to 50m away from the section-line. Increased values of Cu/Zn are inferred to indicate proximity to the mineralizing heat-source, which in this case is interpreted to be a causal intrusion (e.g., Yerington metal zoning model). The first overlay shows the approximate trace of the Low-Angle Structure (LAS) and Alpha breccia zones for reference. The second overlay indicates copper targets (red elliptical outlines) and potential ore-shoots (purple polygons) below the LAS (red elliptical outlines). The subsequent overlays show the restoration of an inferred apparent left-lateral offset of ~ 500m for the footwall to the LAS (after C. Cairns interpretation) and the resultant offset of the copper targets (red ellipses) and potential ore-shoots (yellow polygons). The open red ellipses and blue polygons are strong targets for future exploration drilling and indicate potential for the upper parts of a mineralized porphyry Cu-Au stock below the pierce-points for SMD159, 161, 162, 163, 173 and 182.



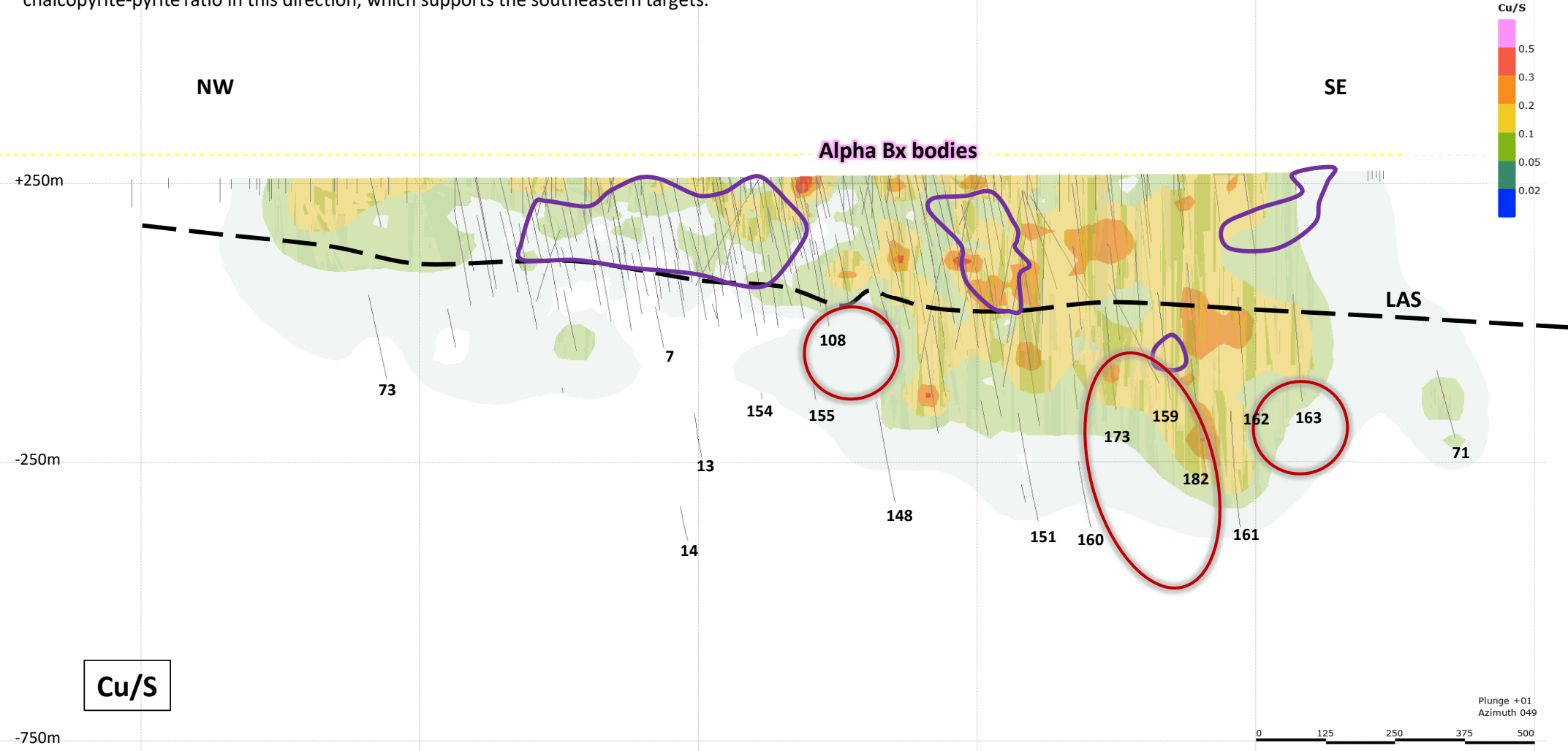
Longitudinal-section of the Cayley Lode, showing a model for Au/Cu in drill-hole for 10-m composites of samples that exceed 100 ppm Cu. The drill-hole traces are projected from up to 50m away from the section-line. The first overlay shows the approximate trace of the Low-Angle Structure (LAS) and Alpha breccia zones for reference. The second overlay indicates copper targets below the LAS (red elliptical outlines). Zones of high Au/Cu are related to intermediate-sulfidation epithermal (carbonate-base metal-gold) mineralization (e.g., SMD073) that are characteristic of proximal to distal settings to a causal intrusion / heat-source. Elevated Au/Cu also characterizes the targets in the southeastern part of the Cayley Lode (e.g., SMD 162, 163 and 182 pierce-points). The large Alpha breccia zone above the LAS contains elevated Au/Cu. The near surface zone of high Au/Cu reflects the oxidation and depletion of copper with respect to gold.



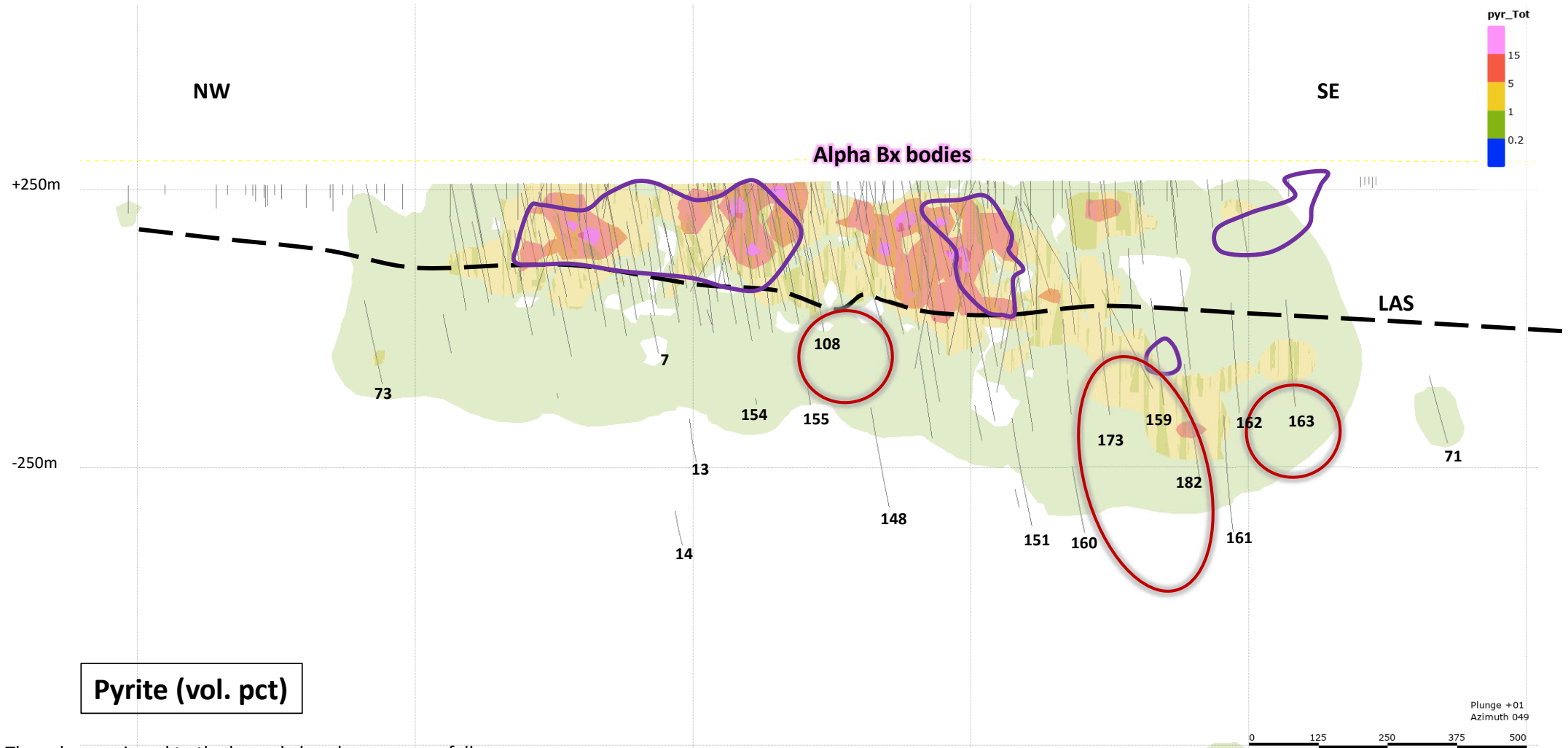
Longitudinal-section of the Cayley Lode, showing a model for Ag/Pb in drill-hole. The drill-hole traces are projected from up to 50m away from the section-line. The first overlay shows the approximate trace of the Low-Angle Structure (LAS) and Alpha breccia zones for reference. The second overlay indicates copper targets in the footwall of the LAS (red elliptical outlines). Elevated Ag/Pb characterize the Cu ore-shoots above the LAS (black arrows in final overlay) and the deep southeast targets.



Longitudinal-section of the Cayley Lode, showing a model for Cu/S in drill-hole. The drill-hole traces are projected from up to 50m away from the section-line. In the absence of sulfate minerals (e.g., anhydrite, gypsum and barite), the Cu-S ratio is a good approximation for the chalcopyrite-pyrite ratio, particularly if there are not significant amounts of other copper-sulfide minerals (e.g., chalcocite, bornite, covellite and enargite). The first overlay shows the approximate trace of the Low-Angle Structure (LAS) and Alpha breccia zones for reference. The second overlay indicates copper targets in the footwall of the LAS (red elliptical outlines). The increase in Cu/S with depth in the southeastern part of the lode suggests an increase in the chalcopyrite-pyrite ratio in this direction, which supports the southeastern targets.



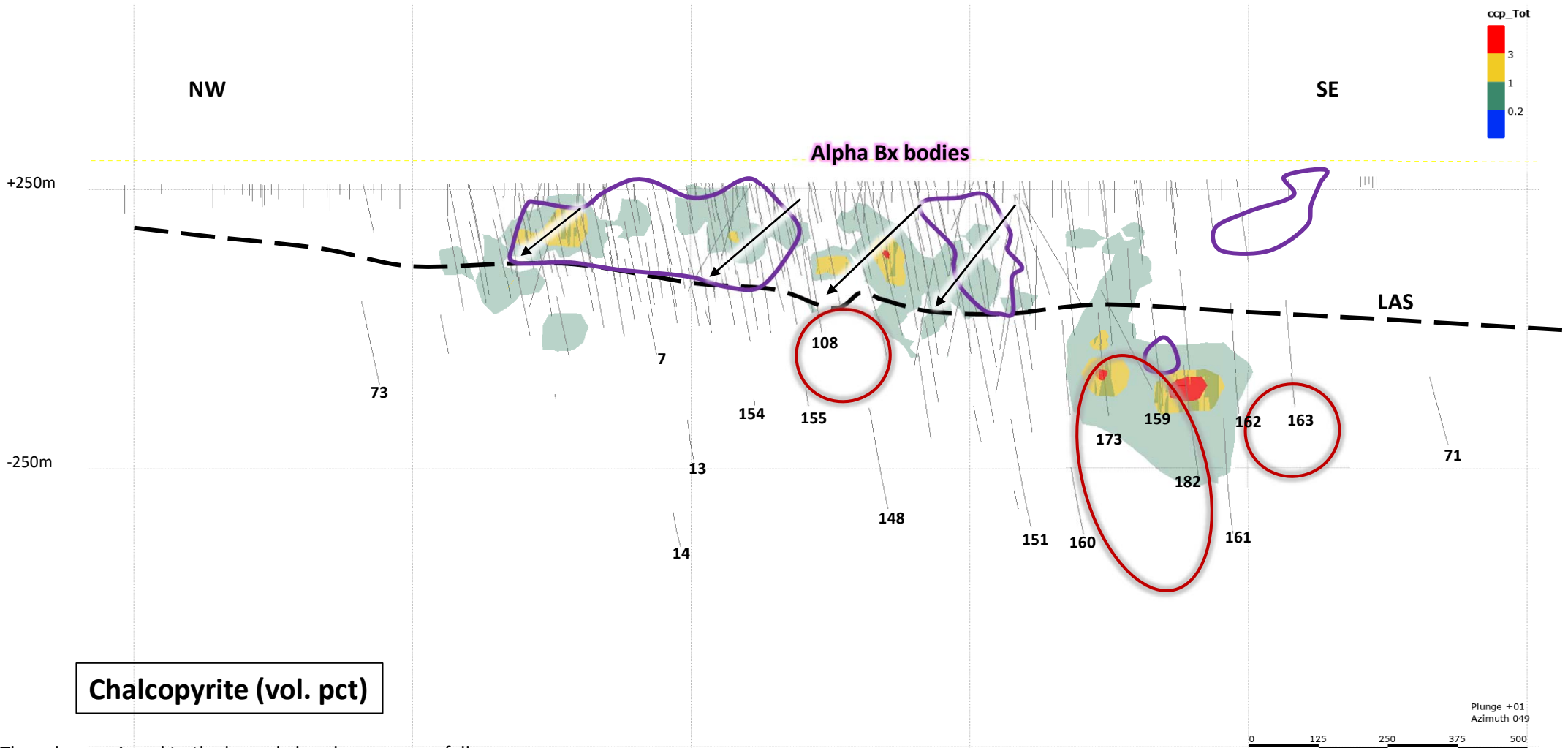
Longitudinal-section of the Cayley Lode, showing a model for visually logged pyrite abundance in drill-hole. The drill-hole traces are projected from up to 50m away from the section-line. The first overlay shows the approximate trace of the Low-Angle Structure (LAS) and Alpha breccia zones for reference. The second overlay indicates copper targets in the footwall of the LAS (red elliptical outlines). The greatest abundance of pyrite occurs in the central part of the lode above the LAS and at depth in the southeast.



The values assigned to the logged abundances are as follows:  
 trace - 0.2%, weak - 1%, moderate - 5%, high - 30% and intense - 50%

The sulfide mineral abundance logs would benefit from the visual estimate of vol.% abundance, rather than the assignment of ranges / bins.

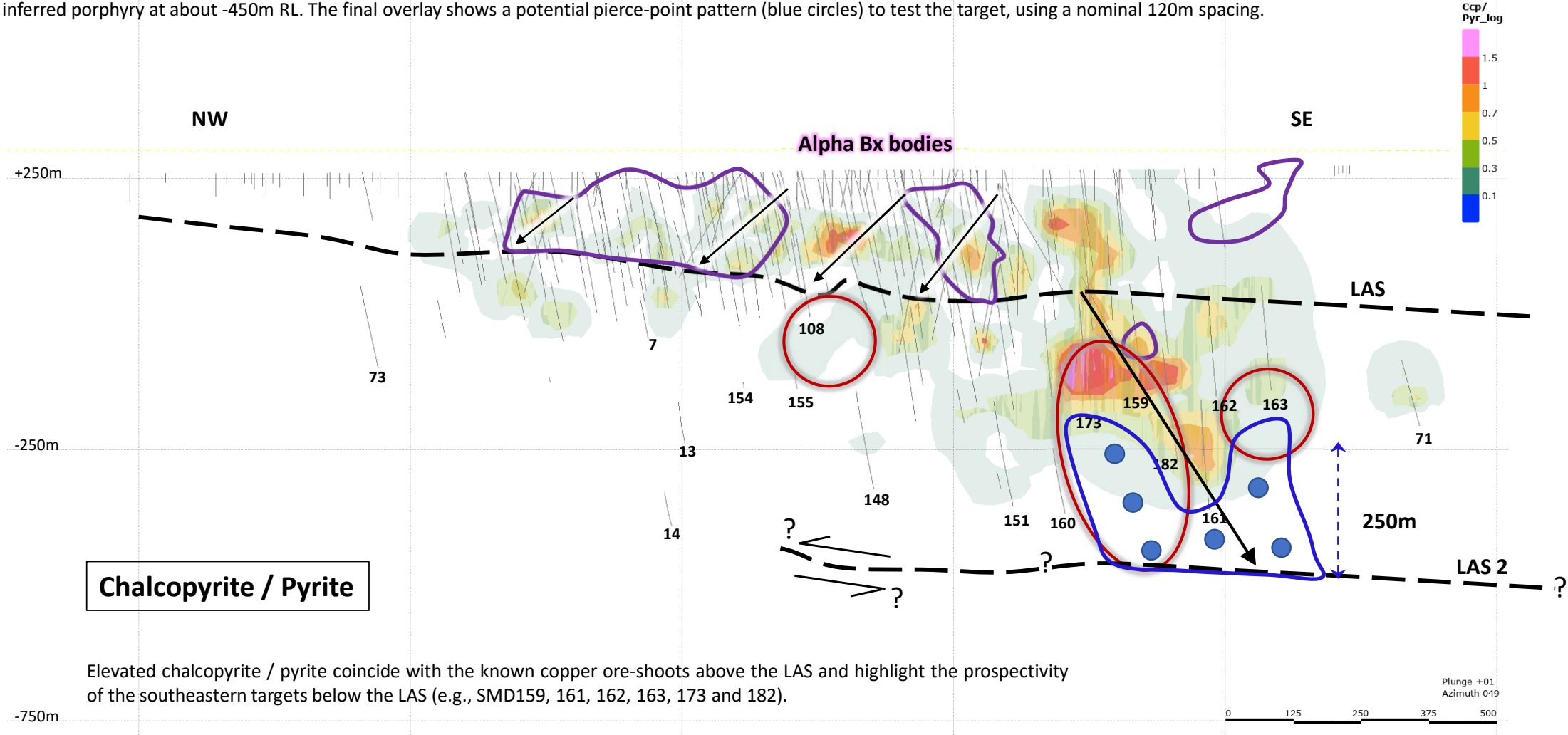
Longitudinal-section of the Cayley Lode, showing a model for visually logged chalcopyrite abundance in drill-hole. The drill-hole traces are projected from up to 50m away from the section-line. The first overlay shows the approximate trace of the Low-Angle Structure (LAS) and Alpha breccia zones for reference. The subsequent overlays show the Cu ore-shoots inferred above the LAS (black arrows) and the copper targets below the LAS (red elliptical outlines). The ore-shoots above the LAS are characterized by elevated chalcopyrite. The southeastern targets, below the LAS, show significant chalcopyrite in the visual logs.



The values assigned to the logged abundances are as follows:  
 trace - 0.2%, weak - 1%, moderate - 5%, high - 30% and intense - 50%

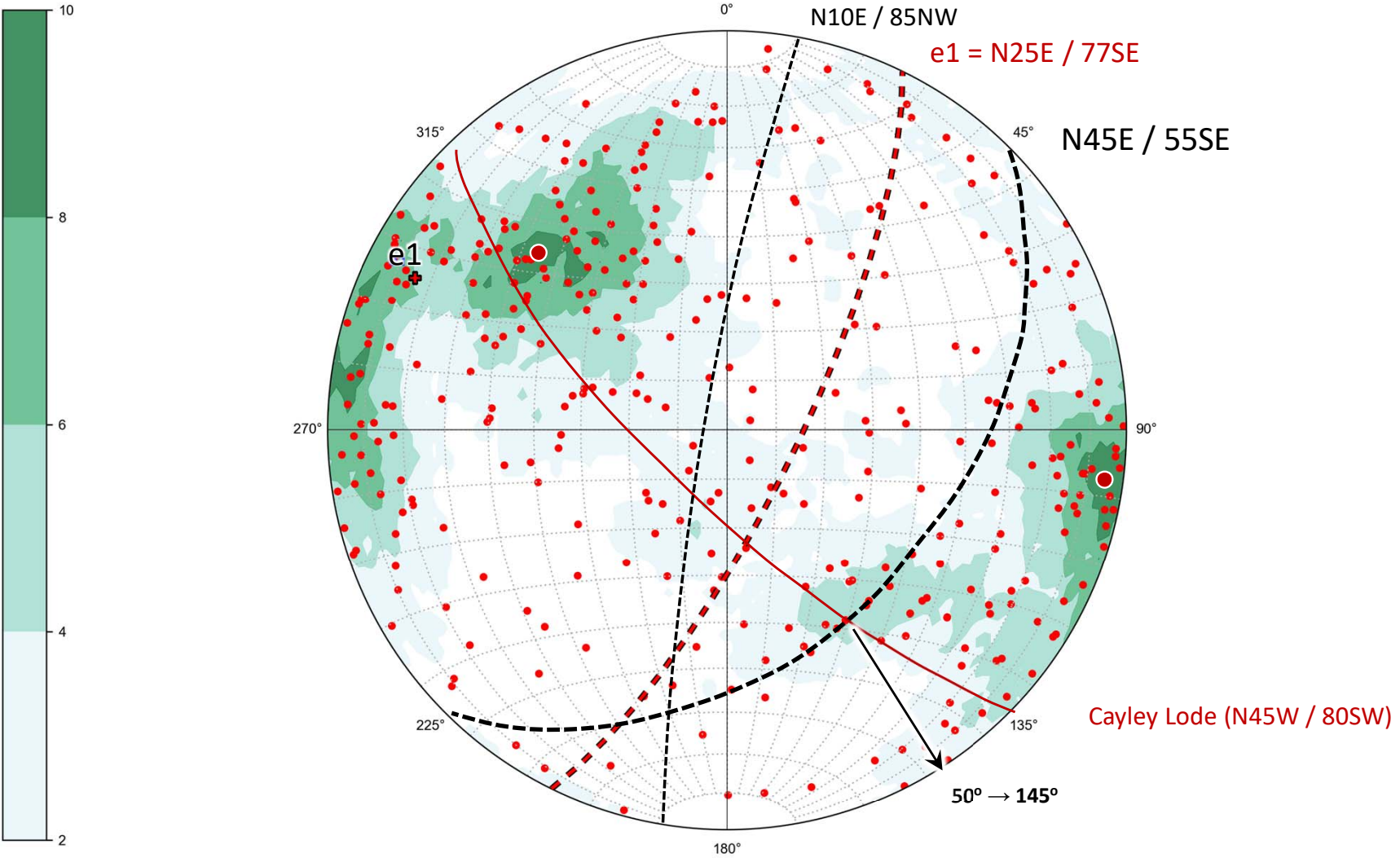
The sulfide mineral abundance logs would benefit from the visual estimate of vol.% abundance, rather than the assignment of ranges / bins.

Longitudinal-section of the Cayley Lode, showing the model for visually logged chalcopyrite / pyrite in drill-hole. The drill-hole traces are projected from up to 50m away from the section-line. The first overlay shows the approximate trace of the Low-Angle Structure (LAS) and Alpha breccia zones for reference. The second overlay indicates the inferred plunge of the Cu-rich ore-shoot (50° → 145°) and potential vector to the top of a porphyry system at depth, which represents the intersection of a NE-striking and SE-dipping cross-structure with the plan of the Cayley Lode (see next figure for stereonet). The next overlays illustrate the Cu ore-shoots inferred above the LAS (black arrows); copper targets (red elliptical outlines); potential down-plunge target zone for drill-testing (blue outline); and the conceptual location of a deeper low-angle structure (LAS2), which is inferred from the fault observed in SMD117 at about -430m RL, and may offset the inferred porphyry at about -450m RL. The final overlay shows a potential pierce-point pattern (blue circles) to test the target, using a nominal 120m spacing.



Elevated chalcopyrite / pyrite coincide with the known copper ore-shoots above the LAS and highlight the prospectivity of the southeastern targets below the LAS (e.g., SMD159, 161, 162, 163, 173 and 182).

Lower hemisphere equal-area net showing the poles to chalcopyrite-bearing veins measured in drill-holes from the Cayley Lode project (344 vein measurements from 69 drill-holes, as classified by M. Agnew). The results show similarities to the vein orientations in the southern part of the Cayley Lode (previous stereonet figure). The most abundant vein population is oriented N45E / 55SE with a secondary set oriented N10E / 85NW. The average orientation of all data indicates N25E / 77SE (e1). The orientation of the Cayley Lode (N45W / 80SW) and the orientation of the inferred SE-plunging Cu ore-shoot (50° → 145°) in the southeastern part of the Cayley Lode are shown for reference.

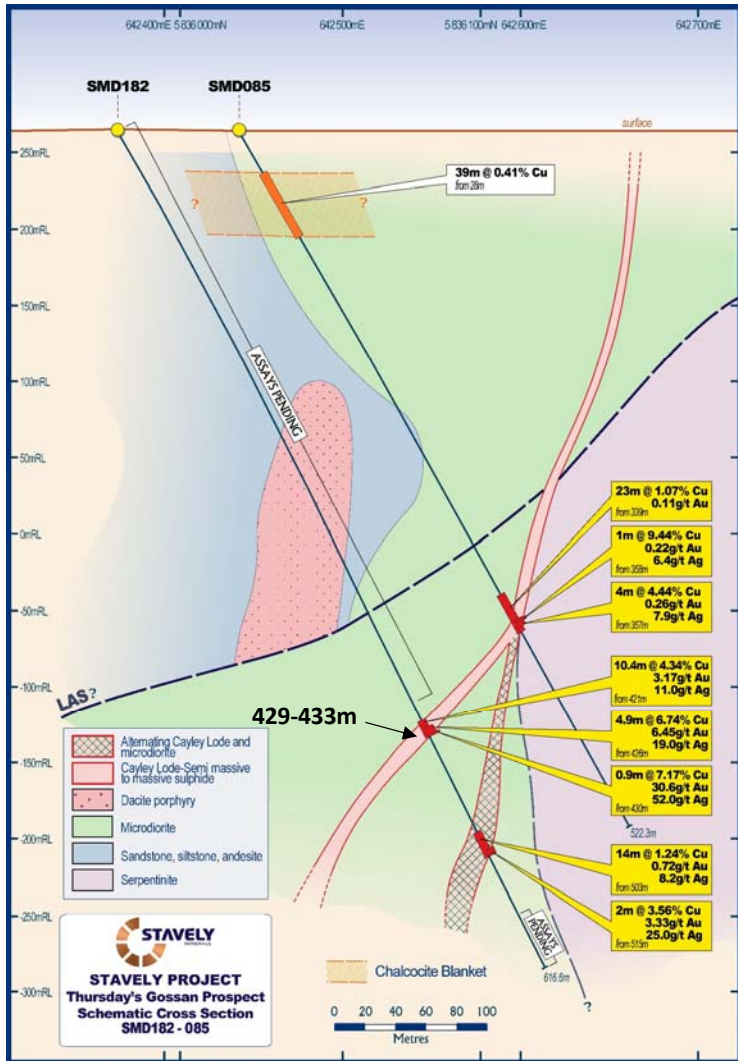




Photograph of drill-core from SMD159 at about 553m and core box (550.9m to 553.9m) in the hangingwall of the Cayley Lode, showing the replacement of a wedge of serpentinized ultramafic (right) by massive chalcopyrite-hematite-magnetite-quartz-chlorite (left) with crystals of chromite ('cr'). The assay result for the interval 552.7m to 553.3m indicates: Au – 0.1 ppm, Ag – 21 ppm, As – 9 ppm, Cr – 1500 ppm, Cu – 5.62%, Fe – 19.3%, Mo – 1 ppm, Ni – 524 ppm, S – 5.25% and Zn – 39 ppm.



Cross-section (looking northwest, from Stavely ASX announcement, 27 April 2022) through the southeastern part of the Cayley Lode showing drill-hole SMD-182 and Cu-Au-Ag anomalous intervals. The location of drill-core interval pictured in the next figure is indicated for reference (429 to 433m). Visual inspection of Cu-Au-Ag anomalous drill-core shows an ore assemblage of chalcopyrite-hematite-magnetite-chlorite-quartz with textural evidence of chlorite replacing secondary, shred-like biotite. Secondary biotite typically occurs at temperatures > 300° C and is consistent with proximity to a causal intrusion. The occurrence of secondary biotite in SMD 182 should be confirmed by thin-section.



## SMD182

- **10.4m at 4.34% copper, 3.17g/t gold and 11g/t silver**, from 421m drill depth, including:
  - **4.9m at 6.74% copper, 6.45g/t gold and 19g/t silver** from 426m, including:
    - **0.9m at 7.17% copper, 30.6g/t gold and 52g/t silver** from 430m



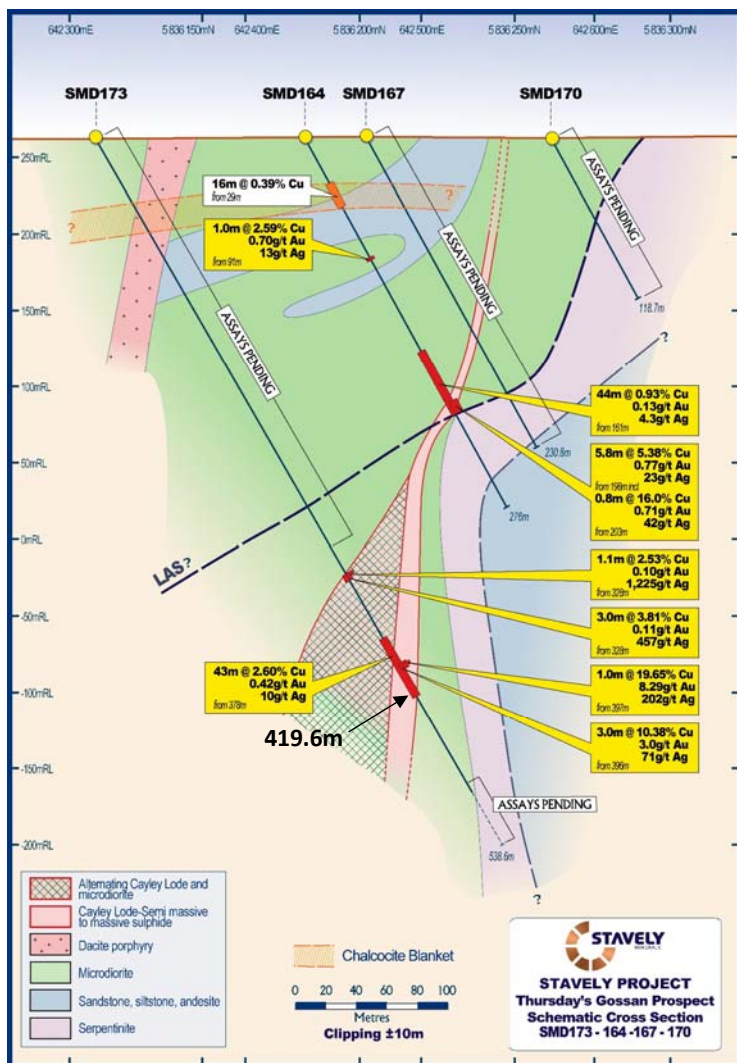
Hematite - specular hematite – magnetite – quartz – chalcopyrite at 423.5m (cut surface).

See ASX announcement 27/04/2022 and available from [www.stavely.com.au](http://www.stavely.com.au)

Photograph of drill-core in SMD182 from 429.1m to 432.8m, showing the footwall of the Cayley Lode (massive chalcopyrite-pyrite) and contact with microdiorite near 431.5m (see previous slide for location). This interval sits about 60m above (in RL) and 60m east of the drill-core from SMD159 shown in the previous slide. The assay result for the interval 430.0m to 430.9m (massive sulfide) indicates: Au – 30.6 ppm, Ag, 52 ppm, As – 8 ppm, Cr – 1520 ppm, Cu – 7.17%, Fe – 21.3%, Mo – 2 ppm, Ni – 1885 ppm, S – 25.5% and Zn – 13 ppm. The sites of gold deposition in this drill-interval can be determined through micro-XRF and EDS / WDS microprobe analyses.



Cross-section (looking northwest, from Stavely ASX announcement, 8 March 2022) through the southeastern part of the Cayley Lode showing drill-hole SMD-173 and Cu-Au-Ag anomalous intervals. The style of veins shown in the photo (inset) indicate textures that are consistent with the upper portions of a porphyry system. The location of the sample photo (419.6m) shown in the next figure is shown for reference.



## SMD173

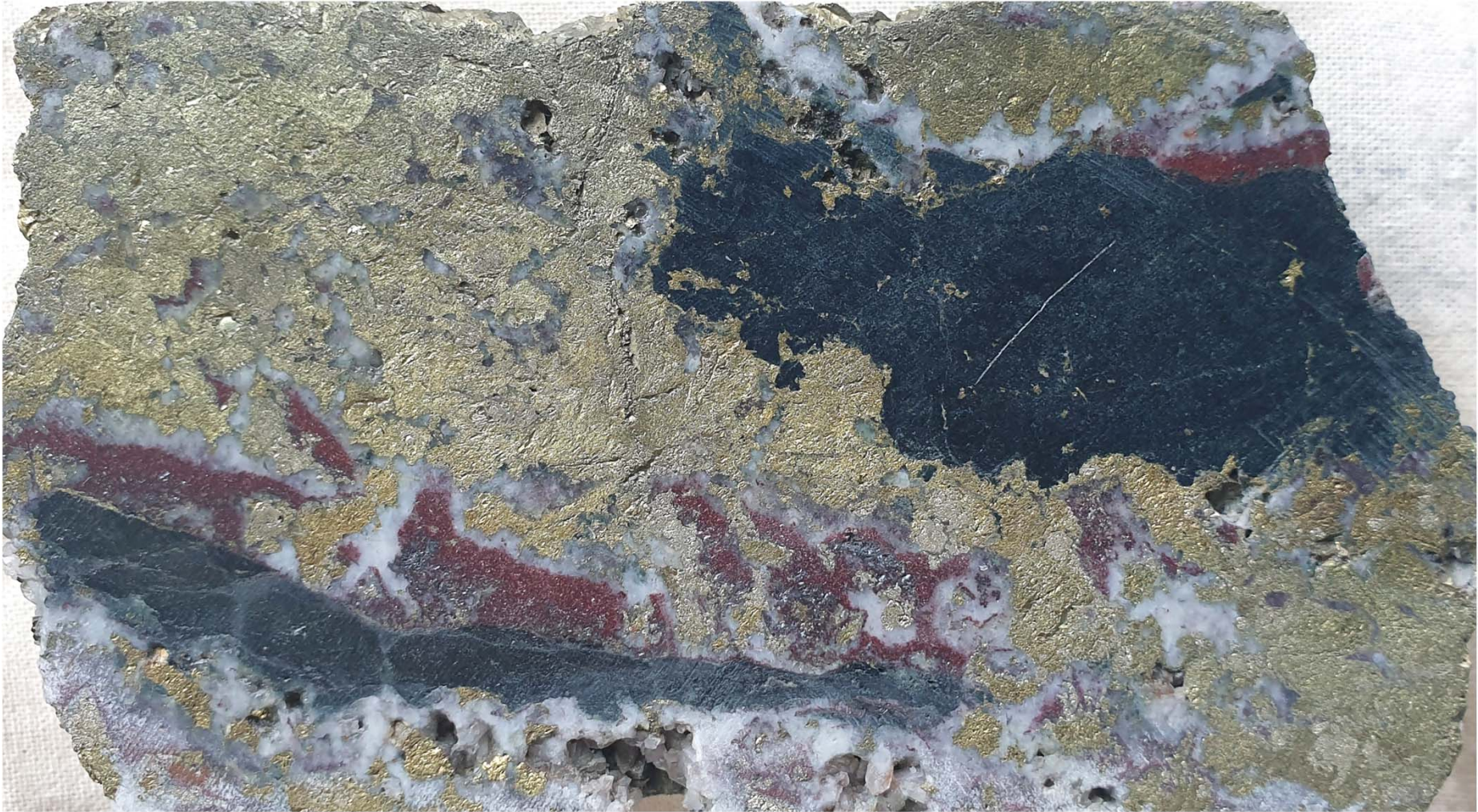
- 43m at 2.60% copper, 0.42g/t gold and 10g/t silver, from 378m drill depth, including:
  - 3m at 10.38% copper, 3.0g/t gold and 71g/t silver from 396m, including:
    - 1m at 19.65% copper, 8.29g/t gold and 202g/t silver from 397m



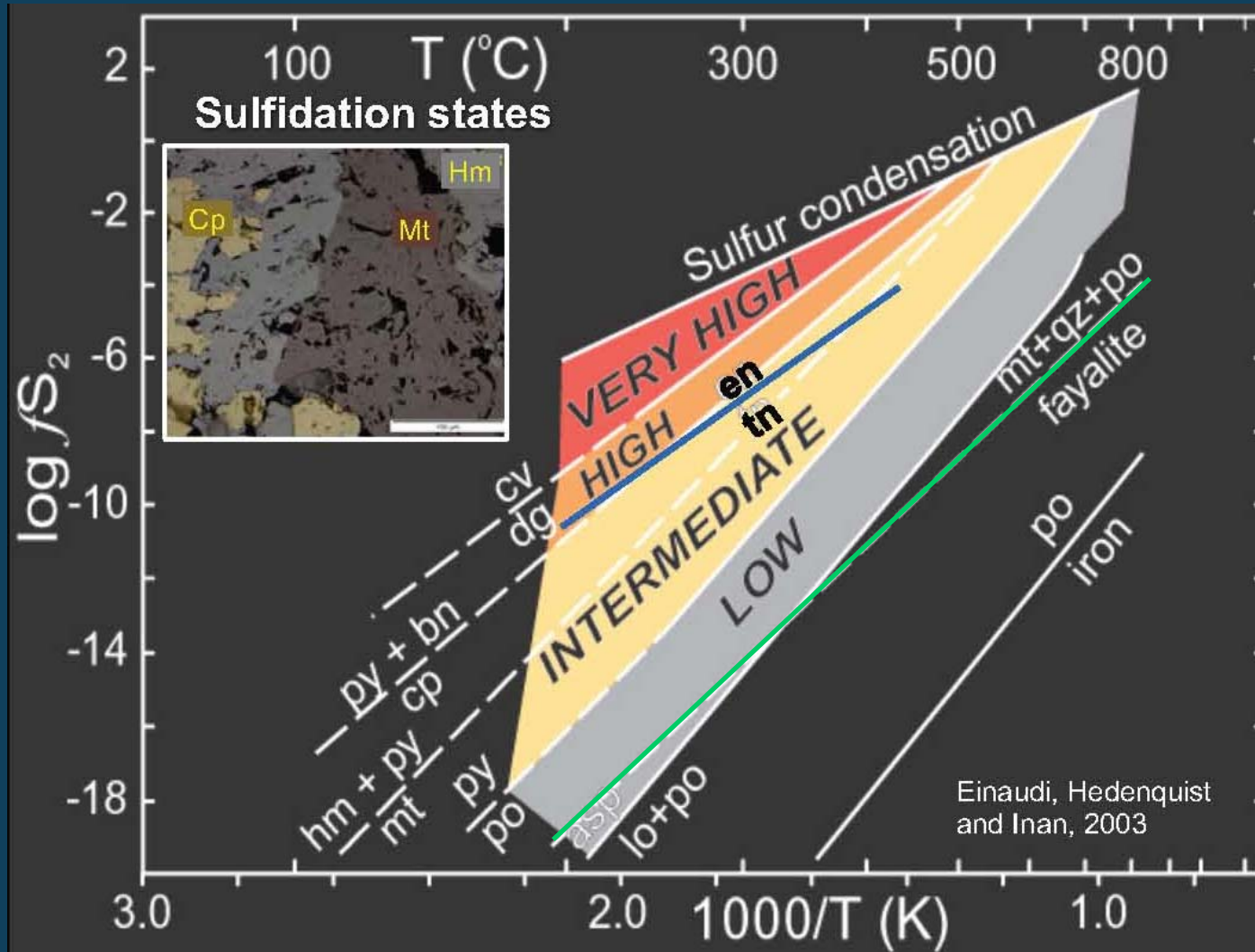
Chalcopyrite+quartz-filled fractures in chlorite+quartz-altered microdiorite. 390.6m.

See ASX announcement 08/03/2022 and available from [www.stavely.com.au](http://www.stavely.com.au)

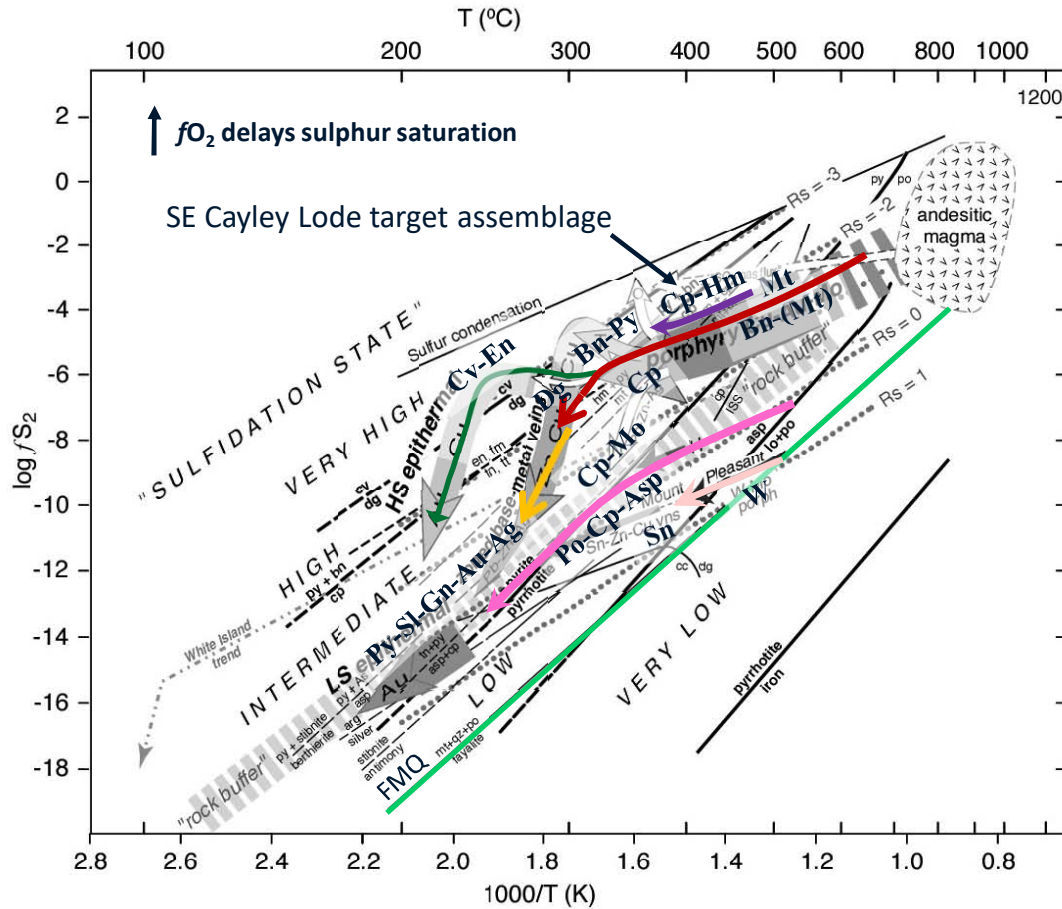
Photograph of drill-core from SMD173 at 419.55m in the footwall of the Cayley Lode (see previous slide for location), showing a breccia assemblage of chalcopyrite-hematite-magnetite-chlorite-quartz and minor pyrite within a 4m interval of ultramafic rock hosted by microdiorite in the hangingwall to, and above, the contact with serpentinized ultramafic. The deposition of chalcopyrite and quartz postdates that of hematite. The assay result for the interval 419.0m to 420.0m indicates: Au – 0.8 ppm, Ag – 34 ppm, As – < 5ppm, Cr – 224 ppm, Cu – 18%, Fe – 23%, Mo – < 1 ppm, Ni – 545 ppm, S – 21.4% and Zn – 23 ppm.



Sulfidation States in Log  $fS_2$  – Temperature Space. This slide illustrates the diagnostic sulfide mineral assemblages that define low-, intermediate- high- and very high-sulfidation states (after Einaudi et al., 2003). The next figure provides further details and infers a cooling path for mineralization in the Cayley Lode area, Stavelly Project.



Log  $f_{S_2}$  – T diagram, illustrating fluid conditions for porphyry, porphyry-related base metal vein and epithermal systems as a series of possible cooling paths (Figure 7 from Einaudi et al., 2003). The inferred cooling path inferred for many porphyry systems is shown, leading to the deposition of early-stage bornite-magnetite, intermediate-stage chalcopyrite-bornite ( $\pm$  hematite), late-stage bornite-pyrite ( $\pm$  digenite) and later-stage pyrite-sphalerite ( $\pm$  chalcopyrite and galena). Molybdenite commonly occurs with chalcopyrite and pyrite in a transitional setting in the mid- to late-stages of the system. The sulfide mineral deposition in most porphyry systems is a continuum in time and space with the overlap of sulfide assemblages occurring as a consequence of multiple intrusions, each which contributed metal to the overall deposit. Inferred cooling paths are illustrated for systems that are highly oxidized (intermediate- to high-sulfidation, e.g., Alpala, Ecuador), moderately oxidized (low- to intermediate-sulfidation, e.g., Batu Hijau, Indonesia) and weakly oxidized to reduced (low-sulfidation, e.g., Mount Pleasant, Canada and Henderson, USA). The chalcopyrite-hematite-magnetite assemblage of the deep southeastern target in the Cayley Lode and the presence of secondary biotite in SMD182 (~ 430m depth) is consistent with formation in a proximal setting to a causal intrusion and potential porphyry center.



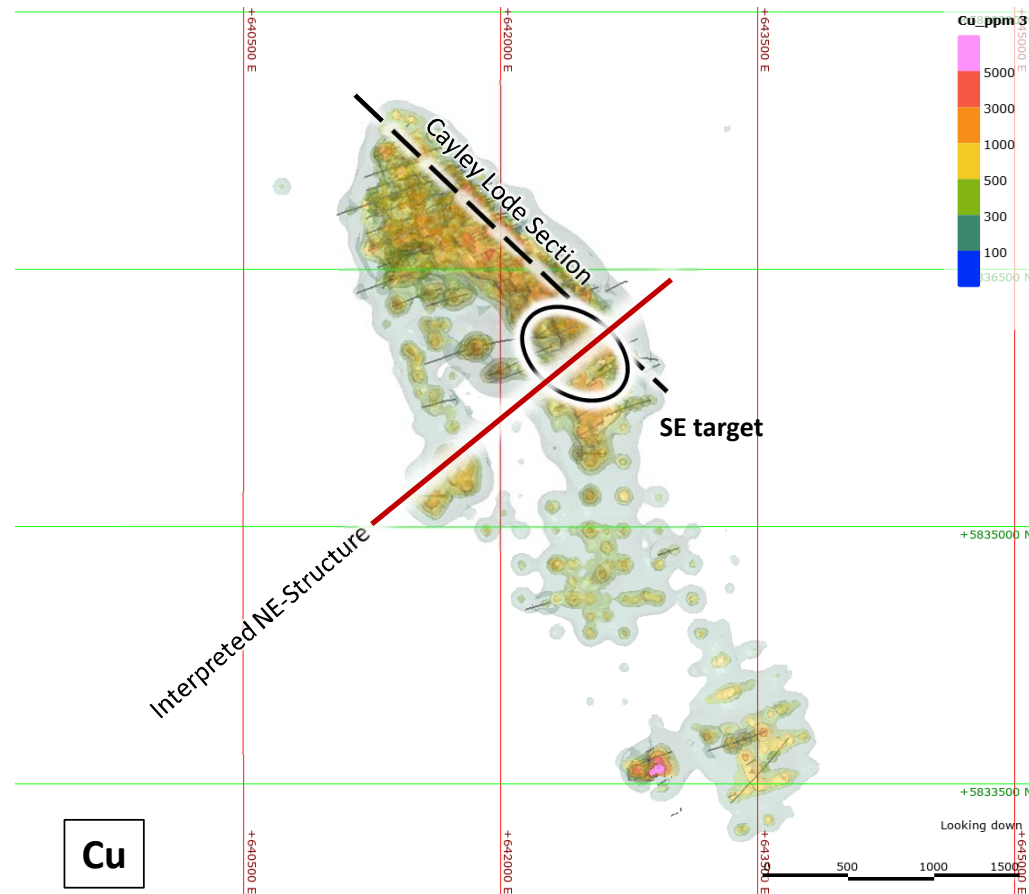
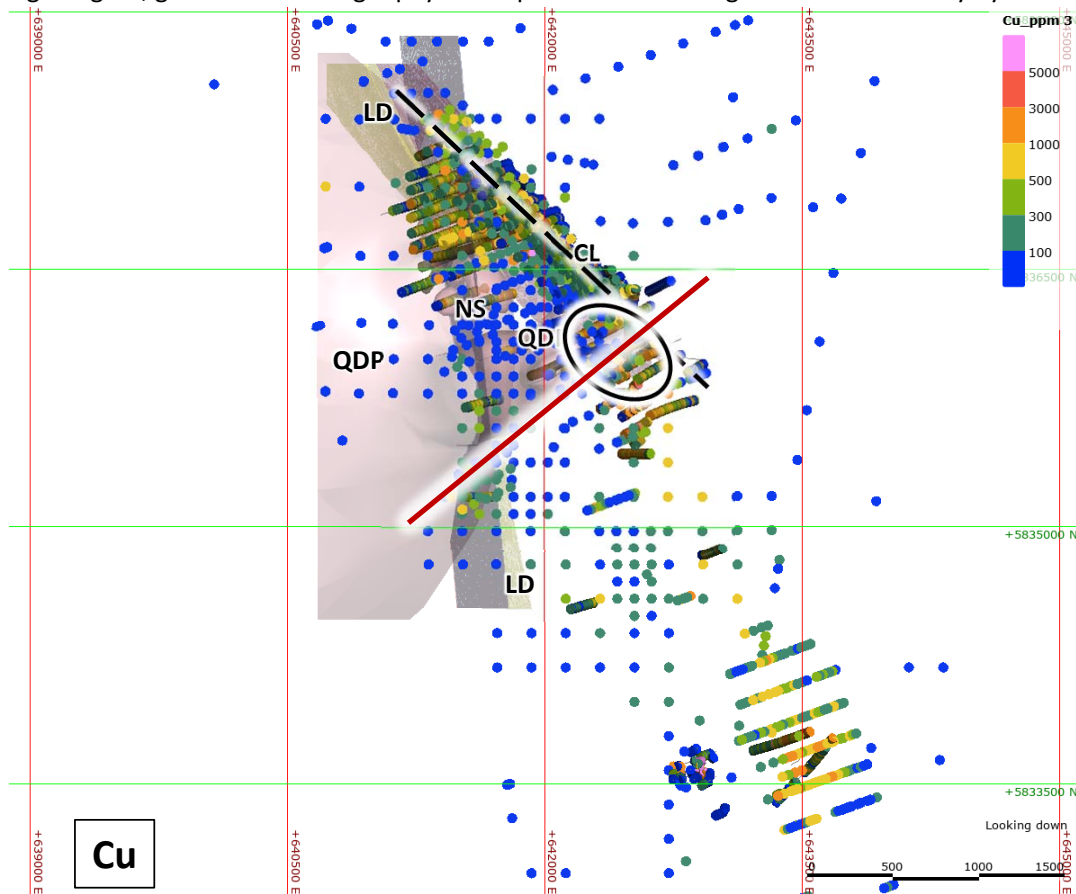
Excerpt of caption from Figure 7 of Einaudi et al. (2003):

The arrow labelled "porphyry Cu-Au-Mo" refers to early- and intermediate-stage assemblages deposited at about 500° to 350°C and low- to intermediate-sulfidation states. Arrows labeled "N" and "O" show deviations from the main-trend. Transition to late-assemblages at high-sulfidation states and to porphyry-related zoned base metal veins at or below 350°C is indicated by the grey arrow labeled "T". Other porphyry deposits that form at low- to very low-sulfidation states (dark, thin arrows labeled "Mount Pleasant" W-Mo and related Sn-Zn-Cu veins, and Henderson Mo –labeled "H") are also shown.

Mineral abbreviations: arg=argentite, asp=arsenopyrite, bn=bornite, cc=chalcocite, cp=chalcopyrite, cv=covellite, dg=digenite, en=enargite, fm=famatinite, gn=galena, hm=hematite, lo=loellingite, mo=molybdenite, mt=magnetite, po=pyrrhotite, py=pyrite, qz=quartz, sl=sphalerite, tn=tennantite, tt=tetrahedrite.

The Cayley Lode assemblage of early pyrite, transitional chalcopyrite and late bornite-covellite-chalcocite / digenite – enargite is consistent with deposition in an oxidized intermediate- to high-sulfidation system(s). The elements typically deposited in this setting include Au, Ag, As, Cu, Mo, Pb+Zn and others.

Plan-view of the simplified geological models for the Cayley Lode area (provided by Stavelly) showing copper (ppm) in drill-hole and a LeapFrog-generated model for copper in drill-hole (10-m composites). The overlays show the location of the Cayley Lode cross-section and the southeastern target zone (SMD159, 160 - 163, 173 and 182), illustrated in previous figures. The final overlay shows the approximate location of an inferred NE-striking, steeply SW-dipping cross-structure that is recommended for follow-up exploration (red line). This structure passes through the deep southeastern target zone in the Cayley Lode, which is inferred to coincide with the upper parts of an inferred porphyry system. The following figures show the geological, geochemical and geophysical expression of the target structure and Cayley Lode area.

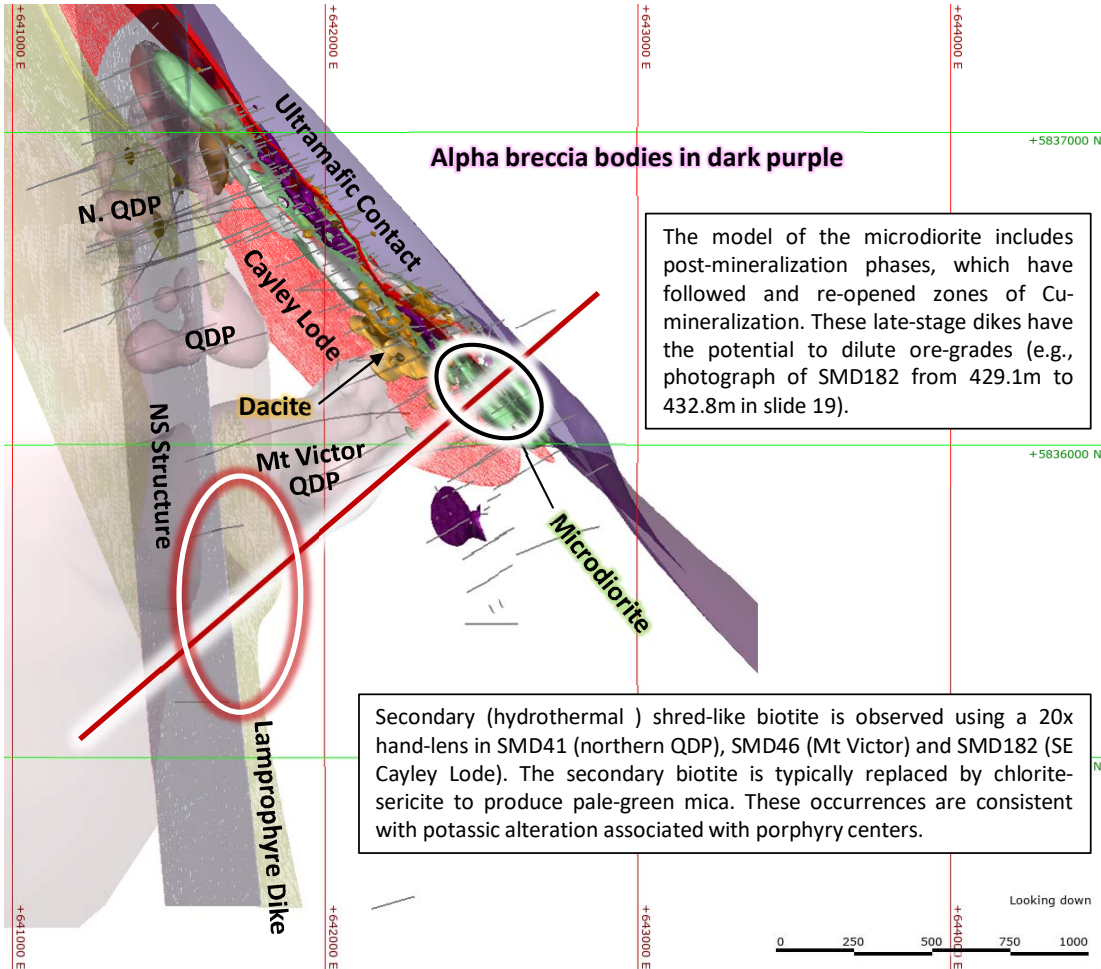
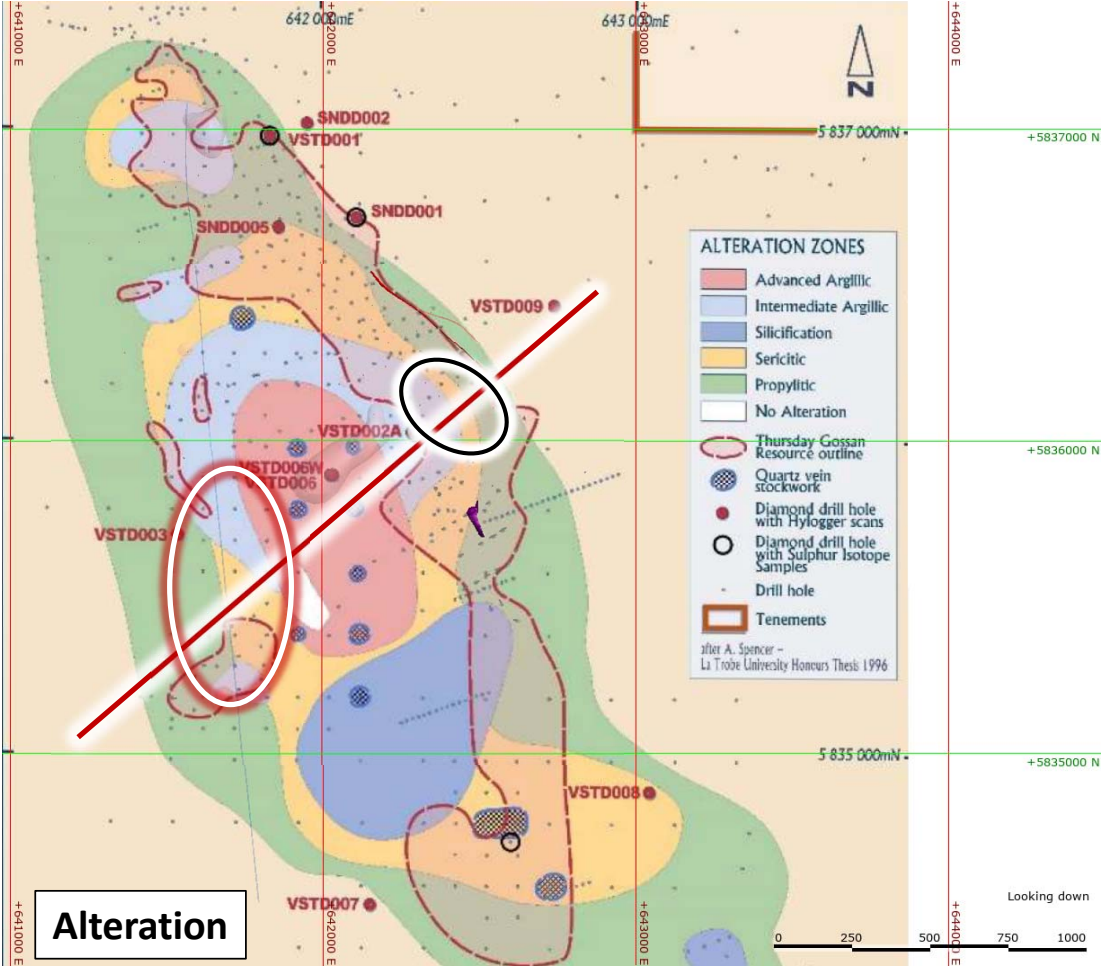


**Model Abbreviations:**

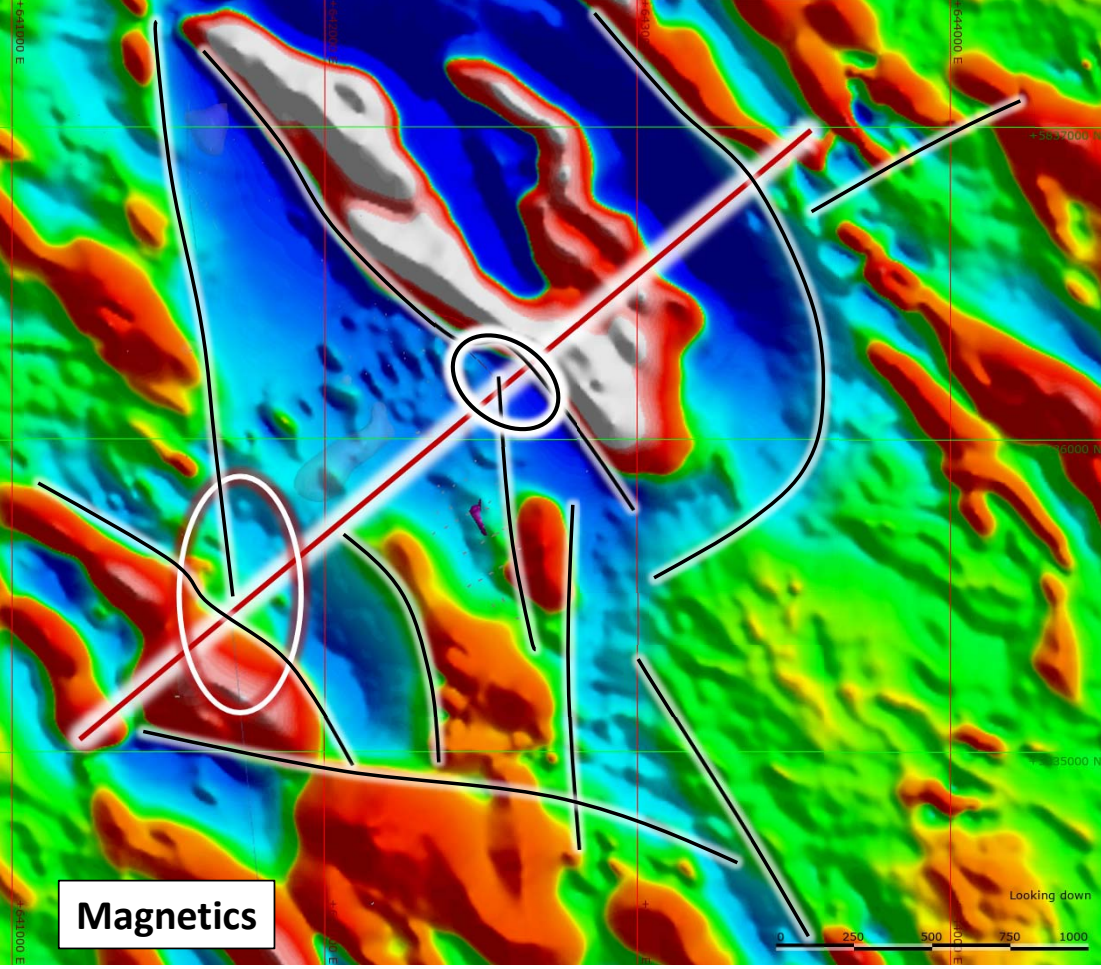
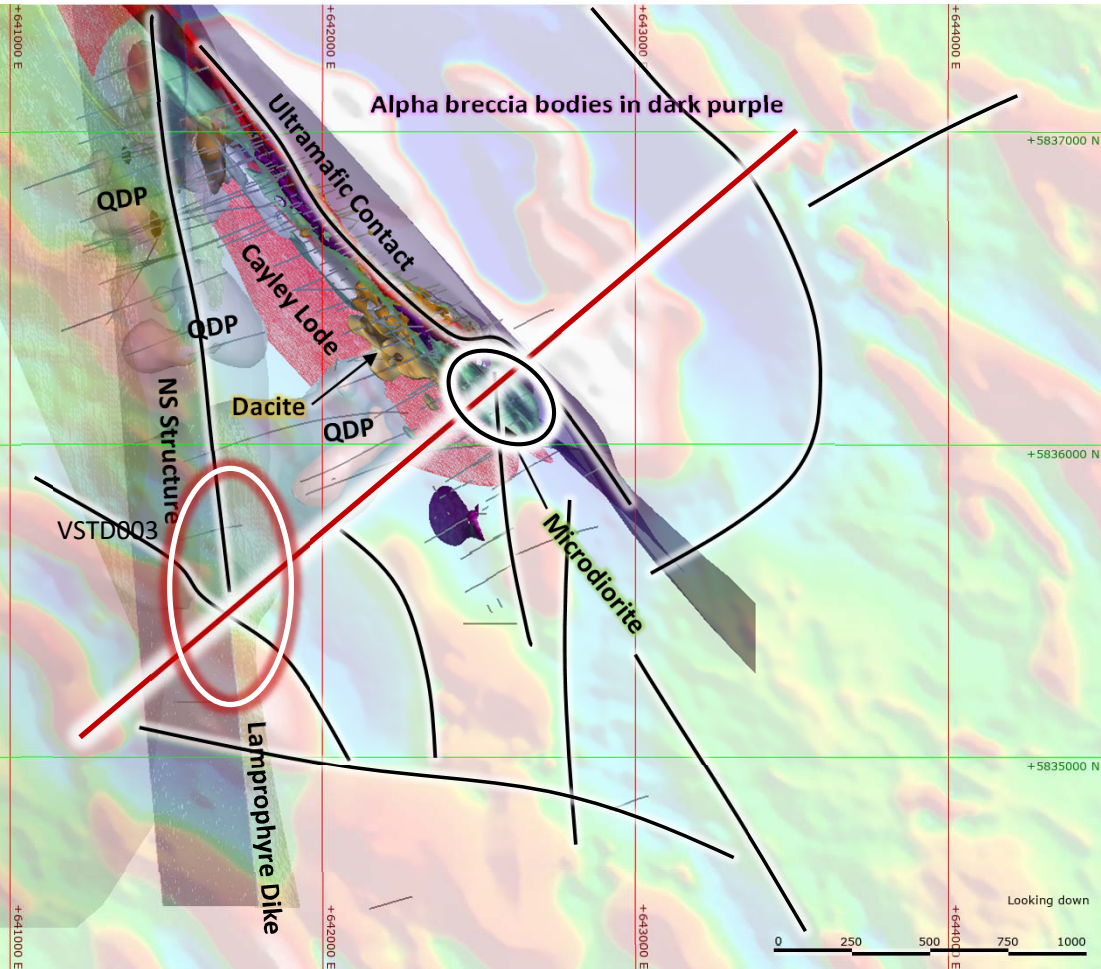
CL – Cayley Lode      NS – North-south structure  
 LD – Lamprophyre dike      QDP – Quartz diorite porphyry



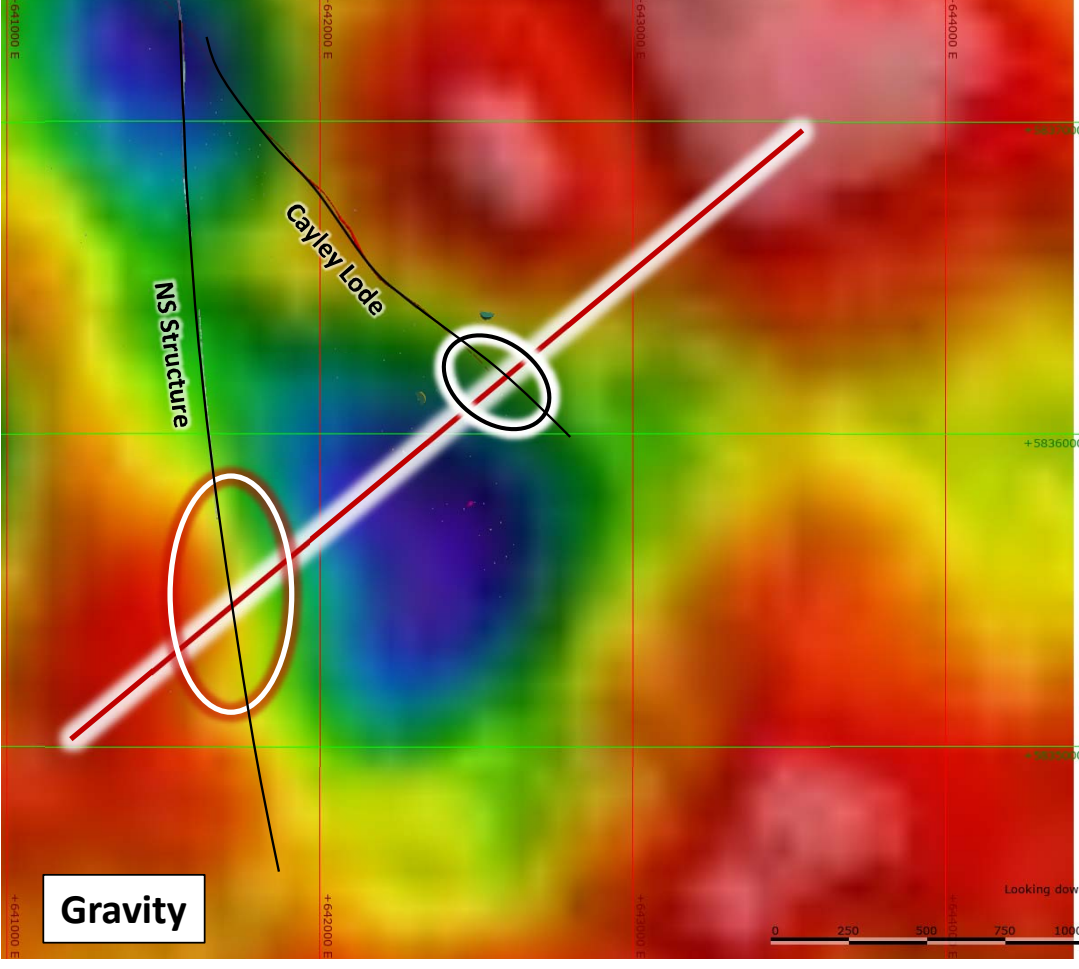
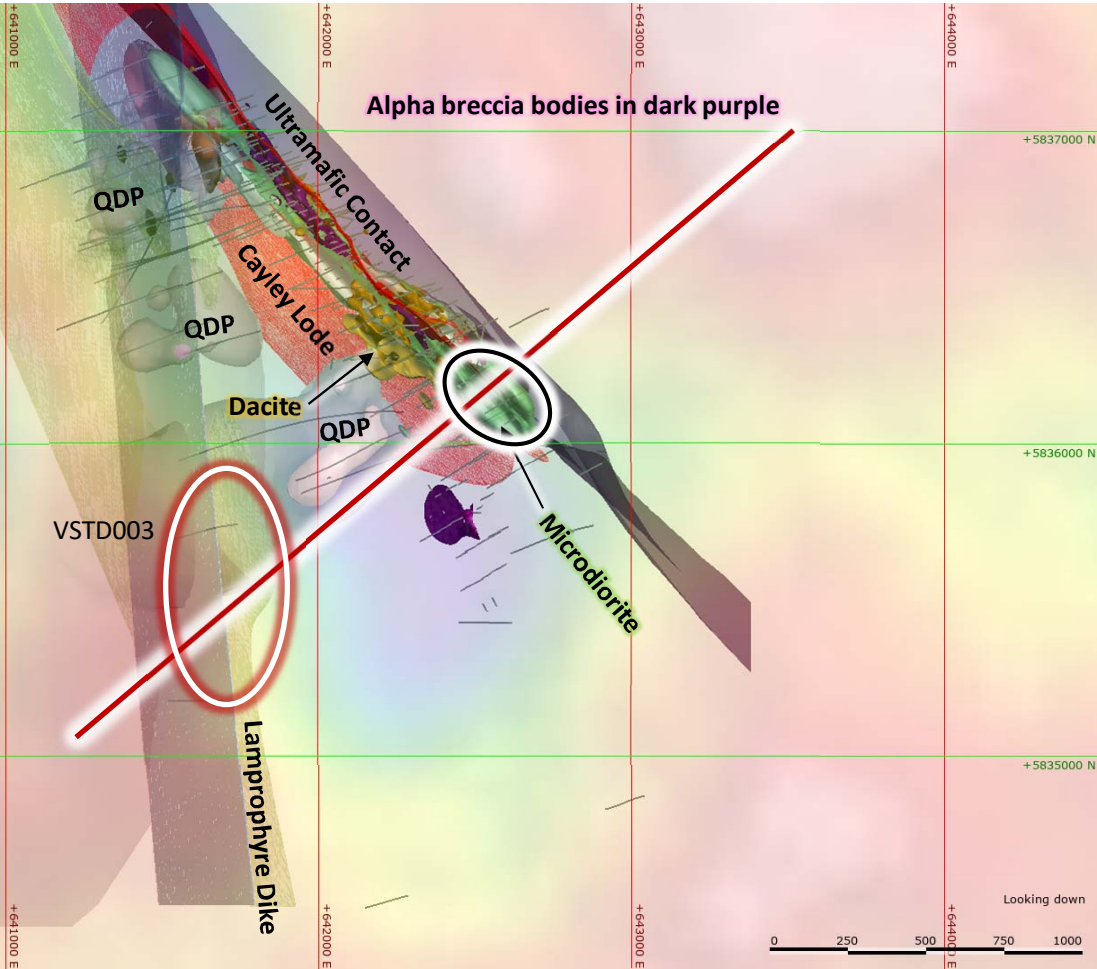
Plan-view of the near-surface interpretive hydrothermal alteration zones (left-hand image) and simplified geological models (provided by Stavelly; right-hand image) for the Cayley Lode area. The overlays show the approximate location of an inferred NE-striking, steeply SW-dipping cross-structure that is recommended for follow-up exploration (red line); the surface projection of the target at depth in the southeastern part of the Cayley Lode (black ellipse); and a second target that lies near the intersection of the north-south structure and lamprophyre dike with the inferred NE-striking cross-structure (red ellipse). The NE-structure is expressed near-surface by a central zone of advanced argillic alteration that is flanked by intermediate argillic (chlorite-sericite-clay) alteration and more distal phyllic alteration; the distribution of the argillic zones have been attributed to the Mount Victor porphyry. The two target zones potentially represent younger Cu-Au-Ag mineralized intrusions that have been emplaced along the flanks of the Mount Victor QDP.



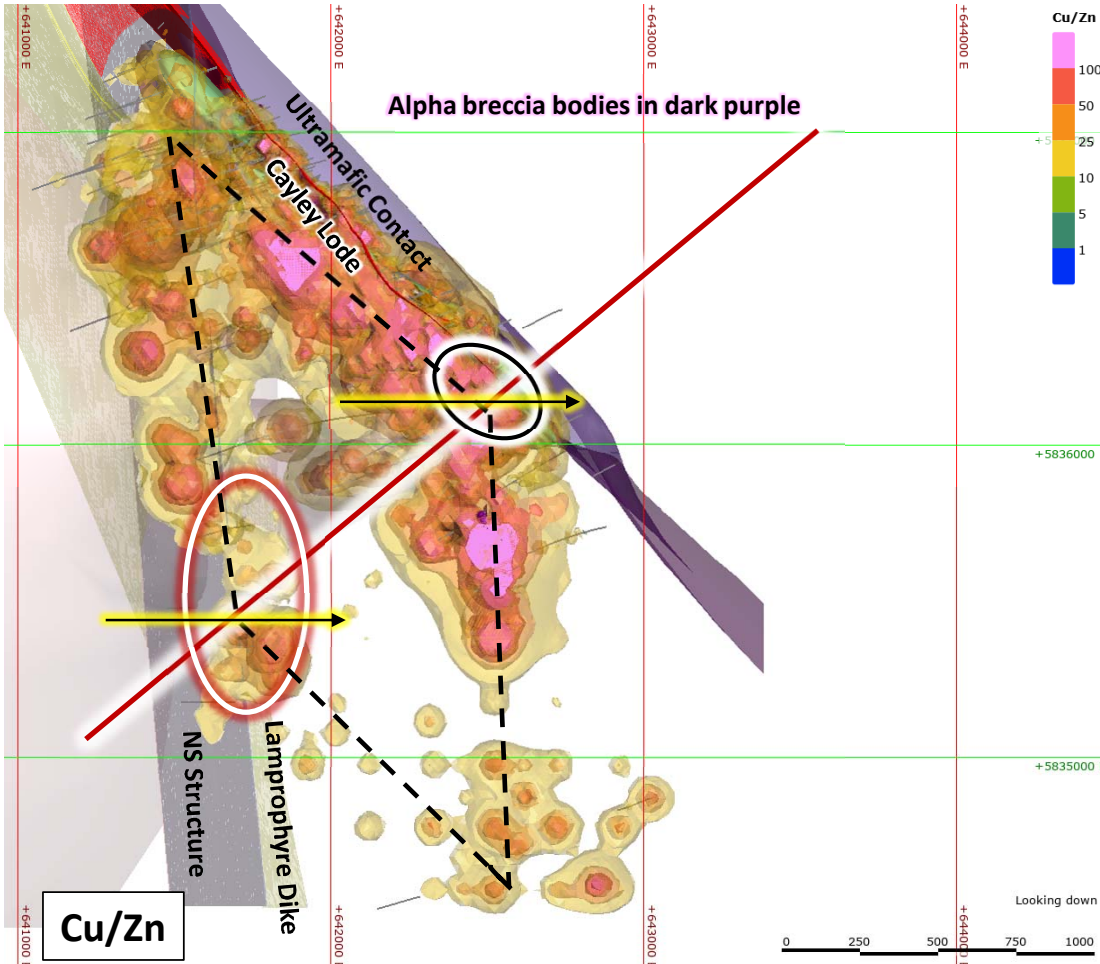
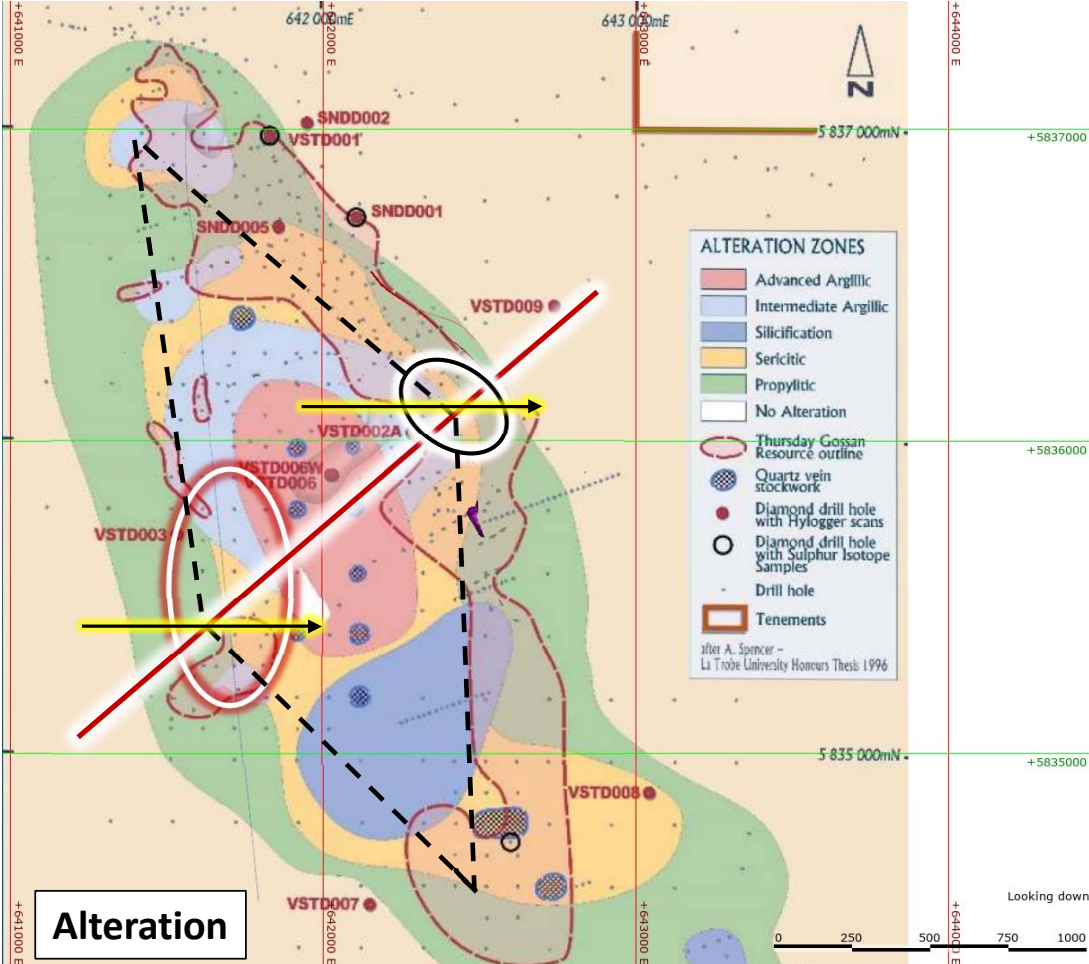
Plan-view of the simplified geological models (provided by Stavely; left-hand image) and first-vertical derivative (1VD) of the total magnetic intensity (right-hand image) for the Cayley Lode area. The overlays show the approximate location of an inferred NE-striking, steeply SW-dipping cross-structure that is recommended for follow-up exploration (red line); the surface projection of the target at depth in the southeastern part of the Cayley Lode (black ellipse); and a second target that lies near the intersection of the north-south structure and lamprophyre dike with the inferred NE-striking cross-structure (red ellipse). The two target zones are located near the intersections of NW- and N-trending magnetic lineaments (black lines in overlay) with the NE-striking cross-structure. The interpretation of the magnetics data could be improved by additional processing to reduce the contribution of the highly magnetic ultramafic unit to the color-stretch in the images and enhance the magnetic gradients at varying wavelengths. It is suggested that Stavely obtain a quote for such work from Fathom Geophysics.



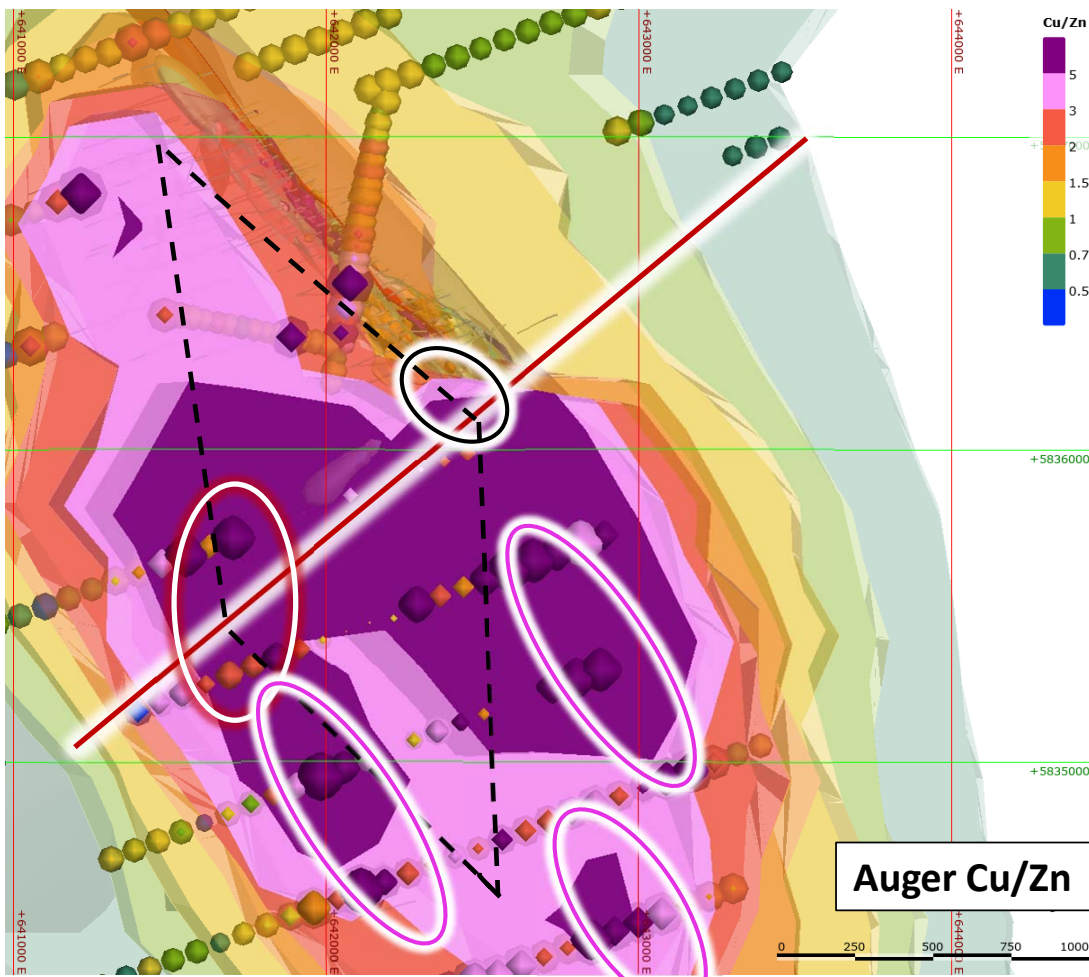
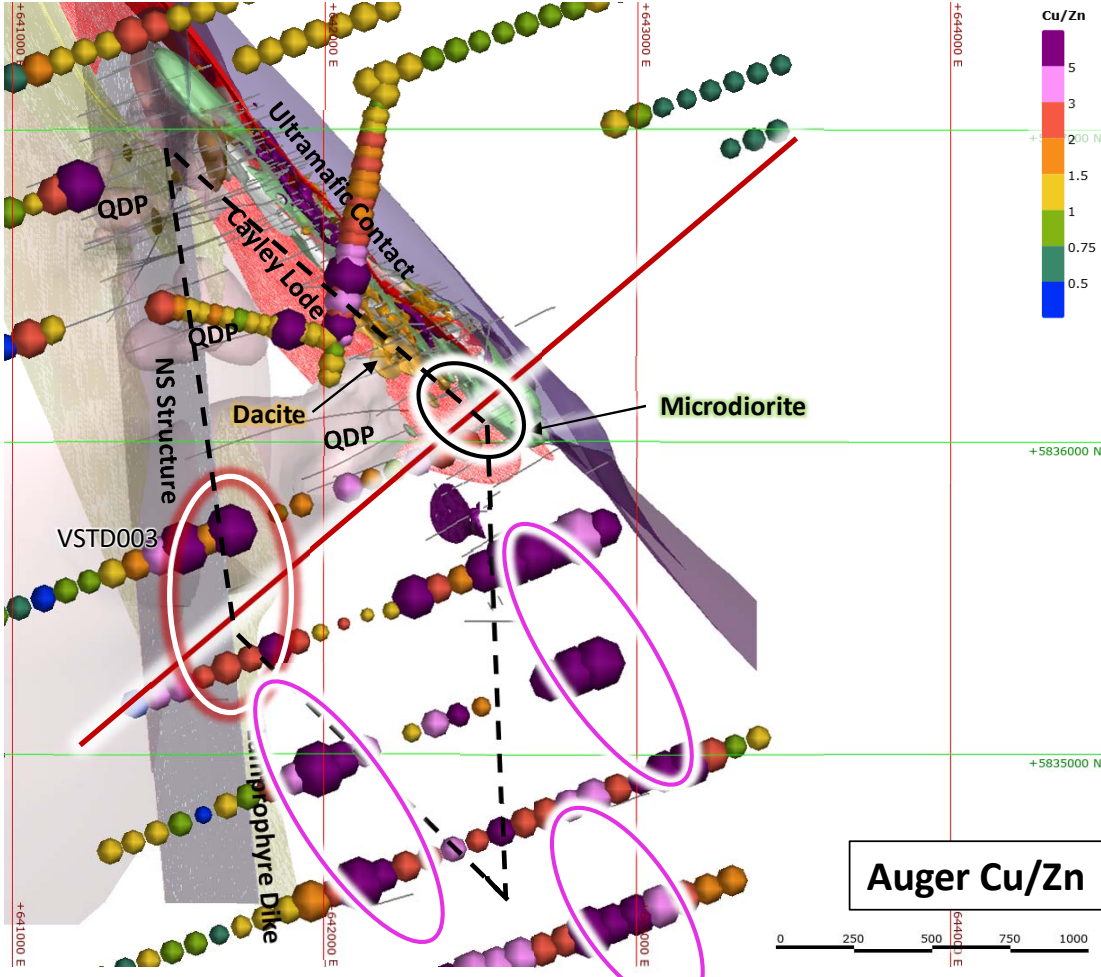
Plan-view of the simplified geological models (provided by Stavely; left-hand image) and 1-km residual gravity (right-hand image) for the Cayley Lode area. The overlays show the approximate location of an inferred NE-striking, steeply SW-dipping cross-structure that is recommended for follow-up exploration (red line); the surface projection of the target at depth in the southeastern part of the Cayley Lode (black ellipse); and a second target that lies near the intersection of the north-south structure and lamprophyre dike with the inferred NE-striking cross-structure (red ellipse). The two target zones are located along major gravity gradients that intersect the NE-striking cross-structure. The interpretation of the gravity data might be improved by additional processing to enhance the gravity gradients at varying wavelengths. It is suggested that Stavely obtain a quote for such work from Fathom Geophysics.



Plan-view of the near-surface interpretive hydrothermal alteration zones (left-hand image) and simplified geological models and the Cu/Zn in drill-hole model (right-hand image) for the Cayley Lode area. The overlays show the approximate location of an inferred NE-striking, steeply SW-dipping cross-structure that is recommended for follow-up exploration (red line); the surface projection of the target at depth in the southeastern part of the Cayley Lode (black ellipse); and a second target that lies near the intersection of the north-south structure and lamprophyre dike with the inferred NE-striking cross-structure (red ellipse). The penultimate overlay shows an inferred rhomboidal prism that is created by the interaction of NW- and N-trending mineralized structures, drawn to coincide with the surface projection of high Cu/Zn in drill-hole. The final overlay schematically shows the potential orientation of easterly inclined drill-holes (black / yellow arrows) to test the structural intersection zones.

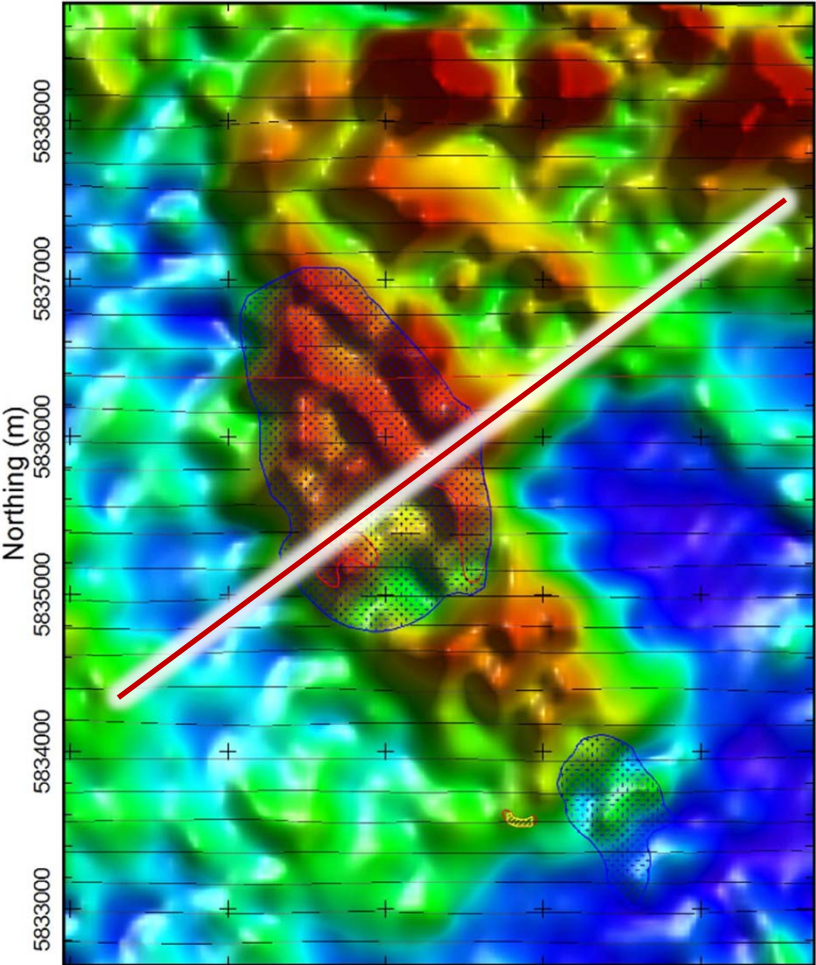


Plan-view of the simplified geological models and the Cu/Zn in surface auger samples (individual samples and contours) for the Cayley Lode area. The overlays show the approximate location of an inferred NE-striking, steeply SW-dipping cross-structure that is recommended for follow-up exploration (red line); the surface projection of the target at depth in the southeastern part of the Cayley Lode (black ellipse); and a second target that lies near the intersection of the north-south structure and lamprophyre dike with the inferred NE-striking cross-structure (red ellipse). The penultimate overlay shows an inferred rhomboidal prism that is created by the interaction of NW- and N-trending mineralized structures, drawn to coincide with the surface projection of high Cu/Zn in drill-hole. Additional zones of exploration interest are indicated in the final overlay (magenta ellipses), based on zones of high Cu/Zn in auger that have yet to be adequately drill-tested.

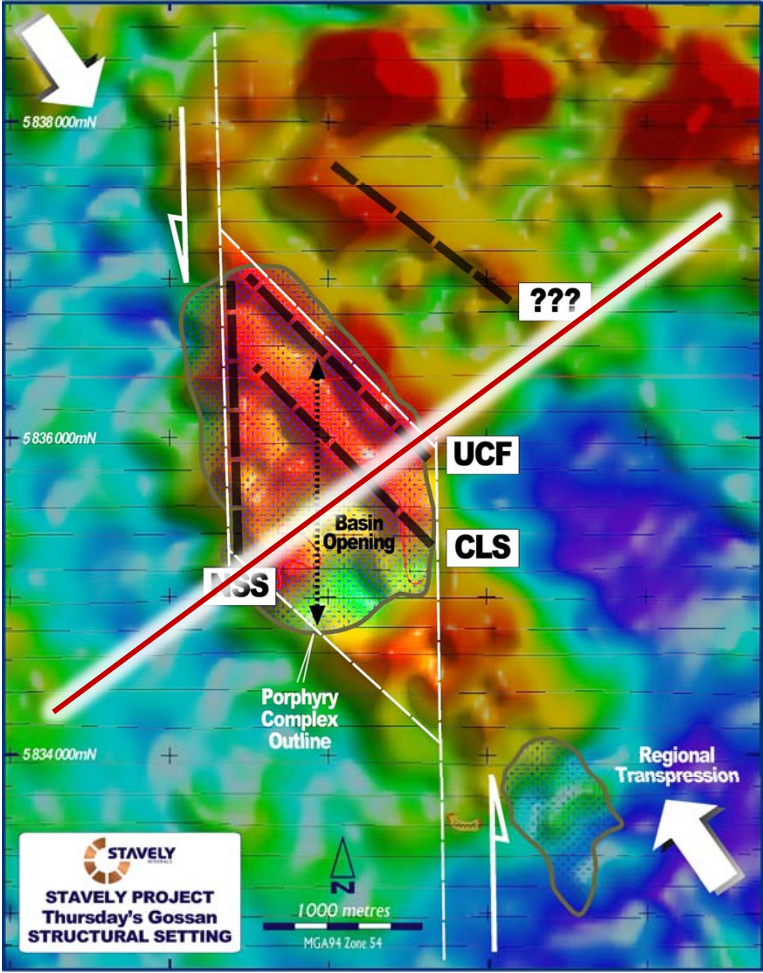


QUESTEM image for the Cayley Lode area provided by C. Cairns on 12 October 2022, showing EM conductivity results (blue = low; red = high) and structural interpretation. The rhomboidal prism, based on the geometry of NW- and N-trending mineralized structures (cf. previous slides), is conductive and inferred to form in a pull-apart basin that is related to NNW-SSE directed regional transpression and associated sinistral offset on the NS structure. The interpretation shows that this interpreted extensional basin is filled by a porphyry (intrusive) complex (blue stippled pattern). The overlay shows the approximate location of the inferred NE-striking, steeply SW-dipping cross-structure that is recommended for follow-up exploration (red line).

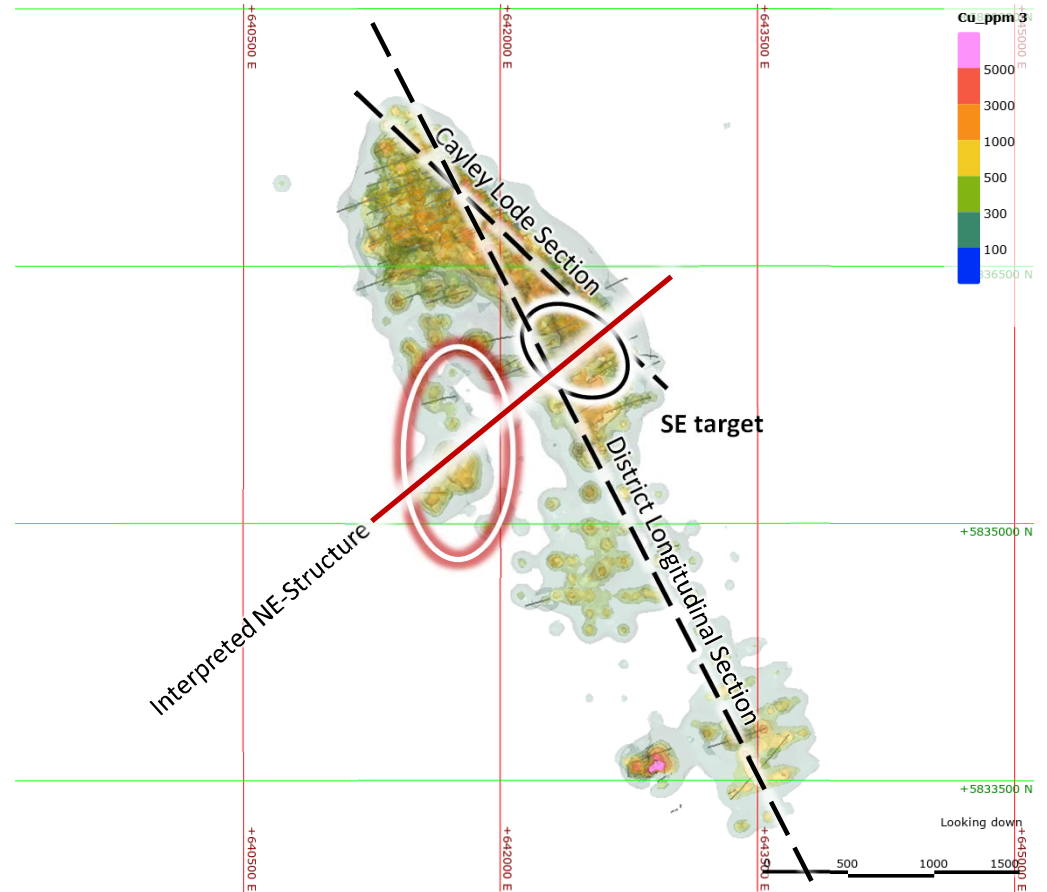
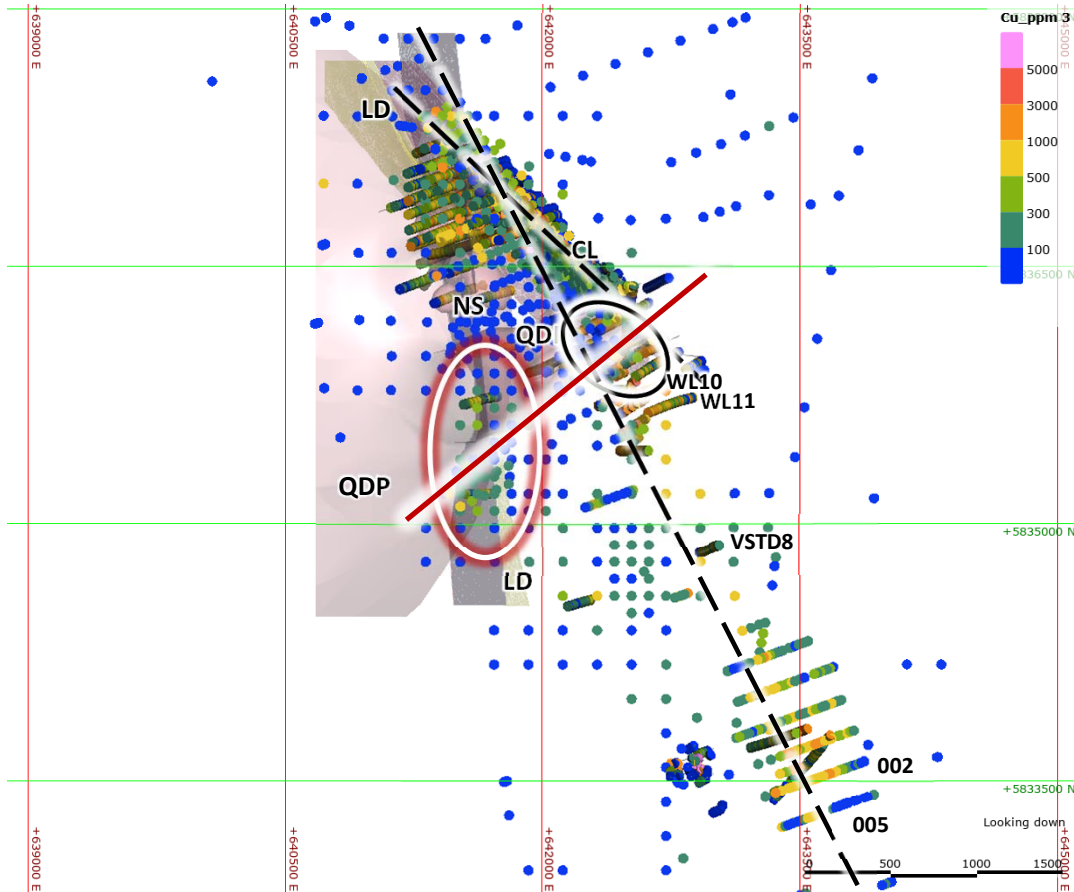
**1994 QUESTEM - Channel 9**



- Abbreviations:**  
**UCF** – Ultramafic contact fault / Cayley Lode  
**CLS** – Potential Cayley Lode parallel structure  
**NSS** – North-south structure  
**???** – Potential structure



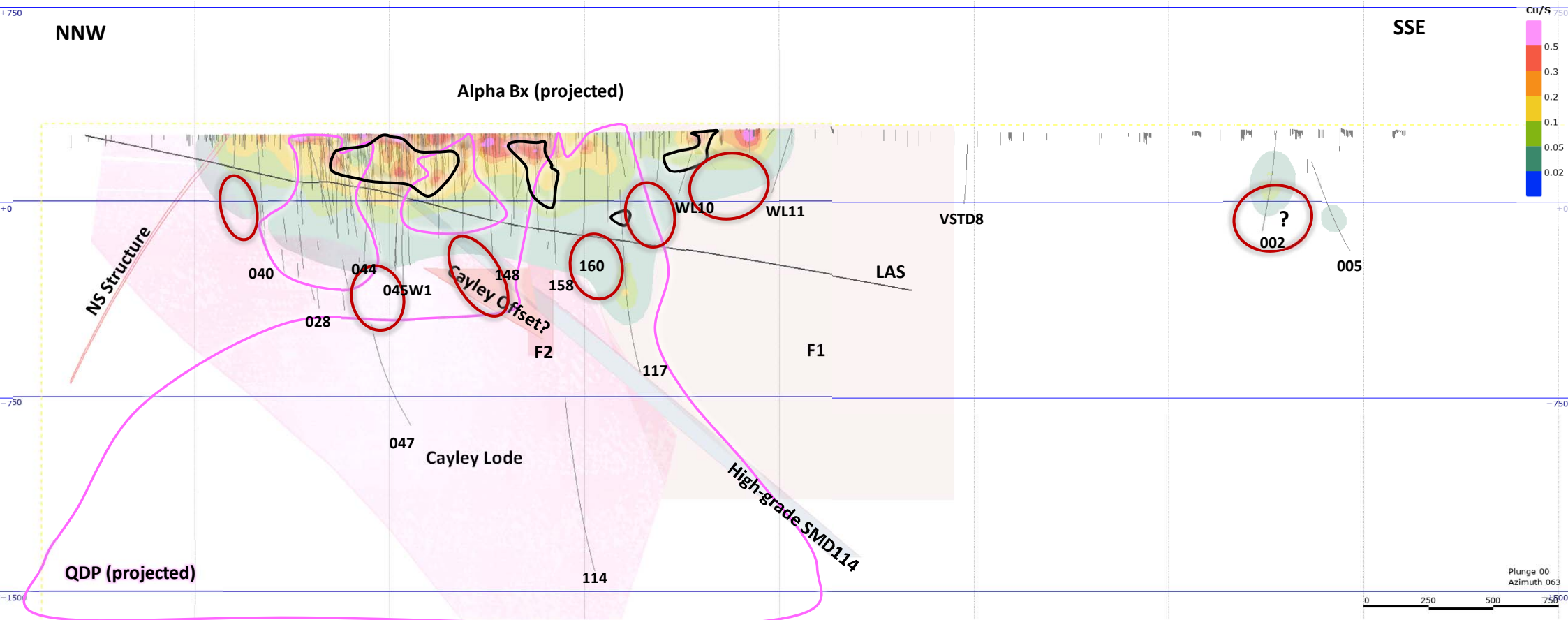
Plan-view of the simplified geological models for the Cayley Lode area (provided by Stavely) showing copper (ppm) in drill-hole and a model for copper in drill-hole (10-m composites). The overlays indicate the location of the Cayley Lode cross-section, surface projection of the target zones and NE-trending cross-structure, illustrated in previous figures. The final overlay indicates the location of the district-scale longitudinal section shown in subsequent figures.



**Model Abbreviations:**

CL – Cayley Lode      NS – North-south structure  
 LD – Lamprophyre dike      QDP – Quartz diorite porphyry

Longitudinal-section through the Cayley Lode district showing geological models (provided by Stavely) and the Cu/S model, based on 10-m composites in drill-hole. The drill-hole traces are projected from up to 200 m away from the section line. The first overlay shows the projection of the quartz diorite porphyry (QDP) and Alpha breccia (bx) bodies into the line of the section. The second overlay indicates potential copper targets (red elliptical outlines). There is high Cu/S near surface in the vicinity of the Cayley Lode, due to the abundance of chalcocite (Cu/S of cct = 4) and oxidation (removal of sulfur). The combined hole 160 – WL 10 – WL11 target zone shows elevated Cu/S.

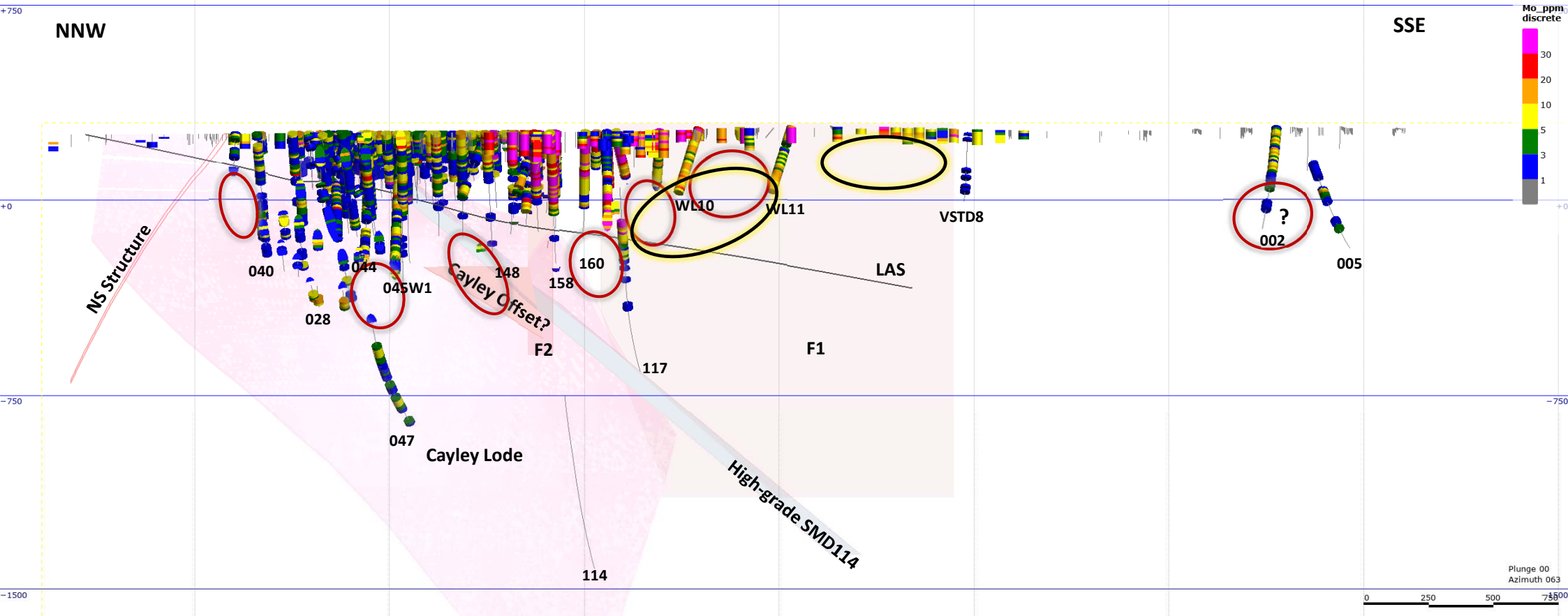


Cu/S

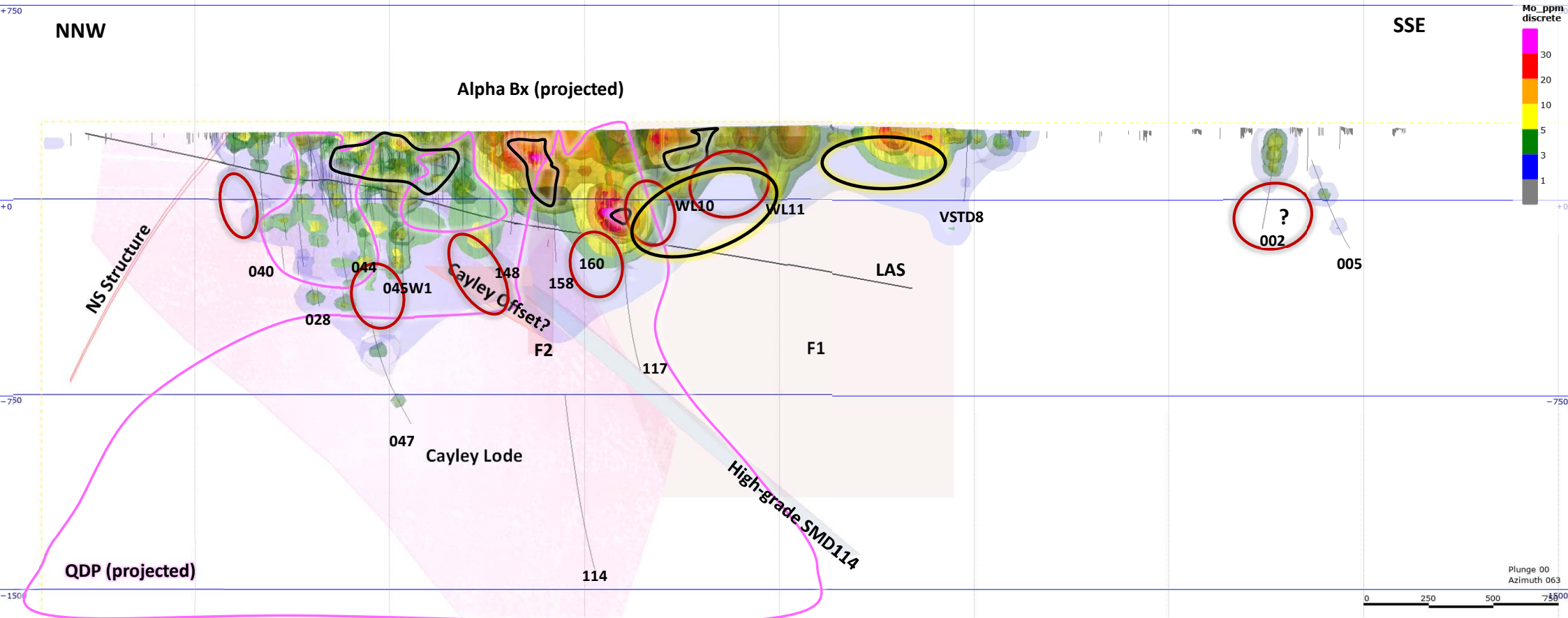
Plunge 00  
Azimuth 063



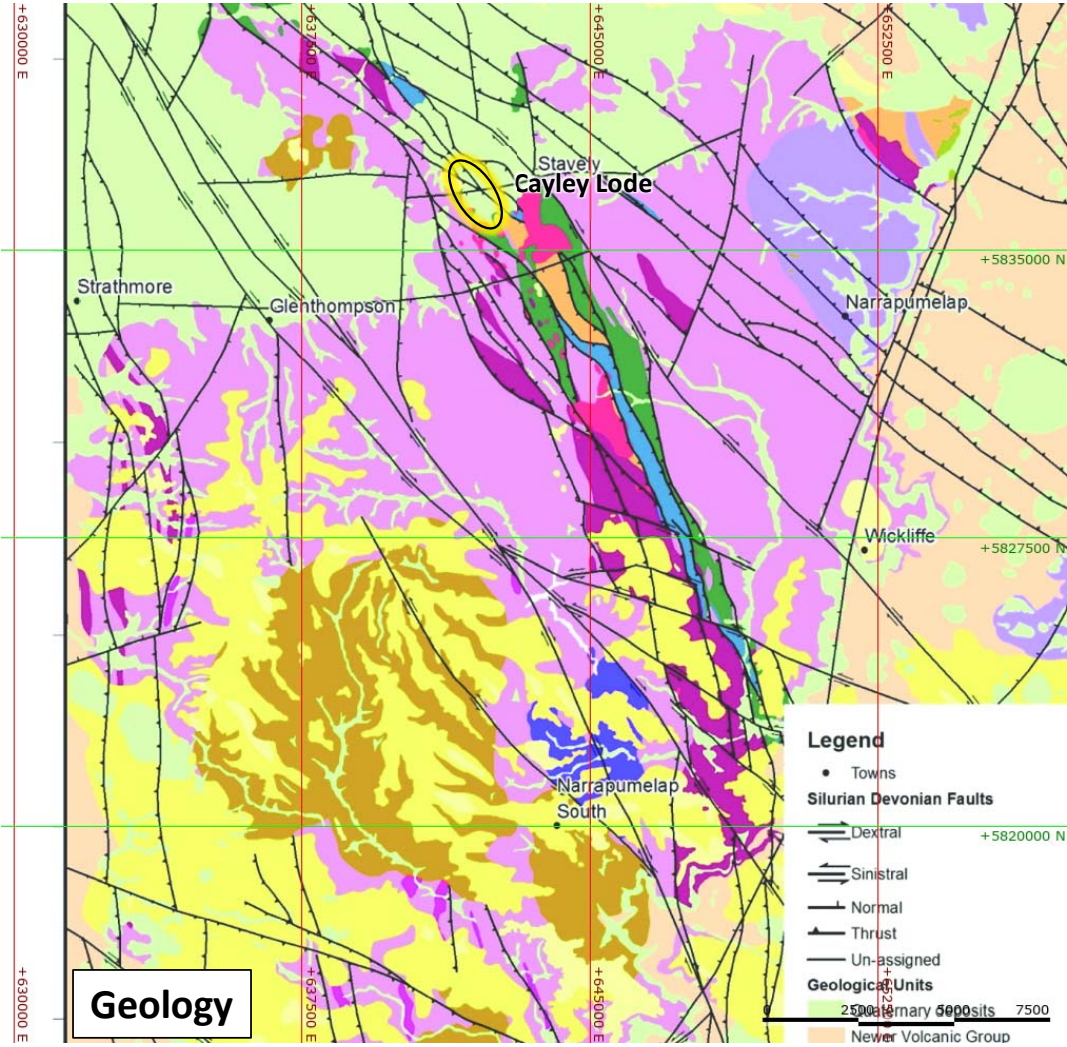
Longitudinal-section through the Cayley Lode district showing geological models (provided by Stavely) and molybdenum (ppm, 10-m composites) in drill-hole. The drill-hole data is projected from up to 200 m away from the section line. The overlay shows potential zones of copper resource for drill testing (red elliptical outlines). The final overlay shows zones of high molybdenum (yellow ellipse) that are of exploration significance, which highlight the WL10, WL11 and VSTD8 area.



Longitudinal-section through the Cayley Lode district showing geological models (provided by Stavely) and the molybdenum model, based on 10-m composites in drill-hole. The drill-hole traces are projected from up to 200 m away from the section line. The first overlay shows the projection of the quartz diorite porphyry (QDP) and Alpha breccia (bx) bodies into the line of the section. The second overlay indicates potential copper targets (red elliptical outlines). The final overlay shows zones of high molybdenum (yellow ellipse) that are of exploration significance, which highlight the WL10, WL11 and VSTD8 area.



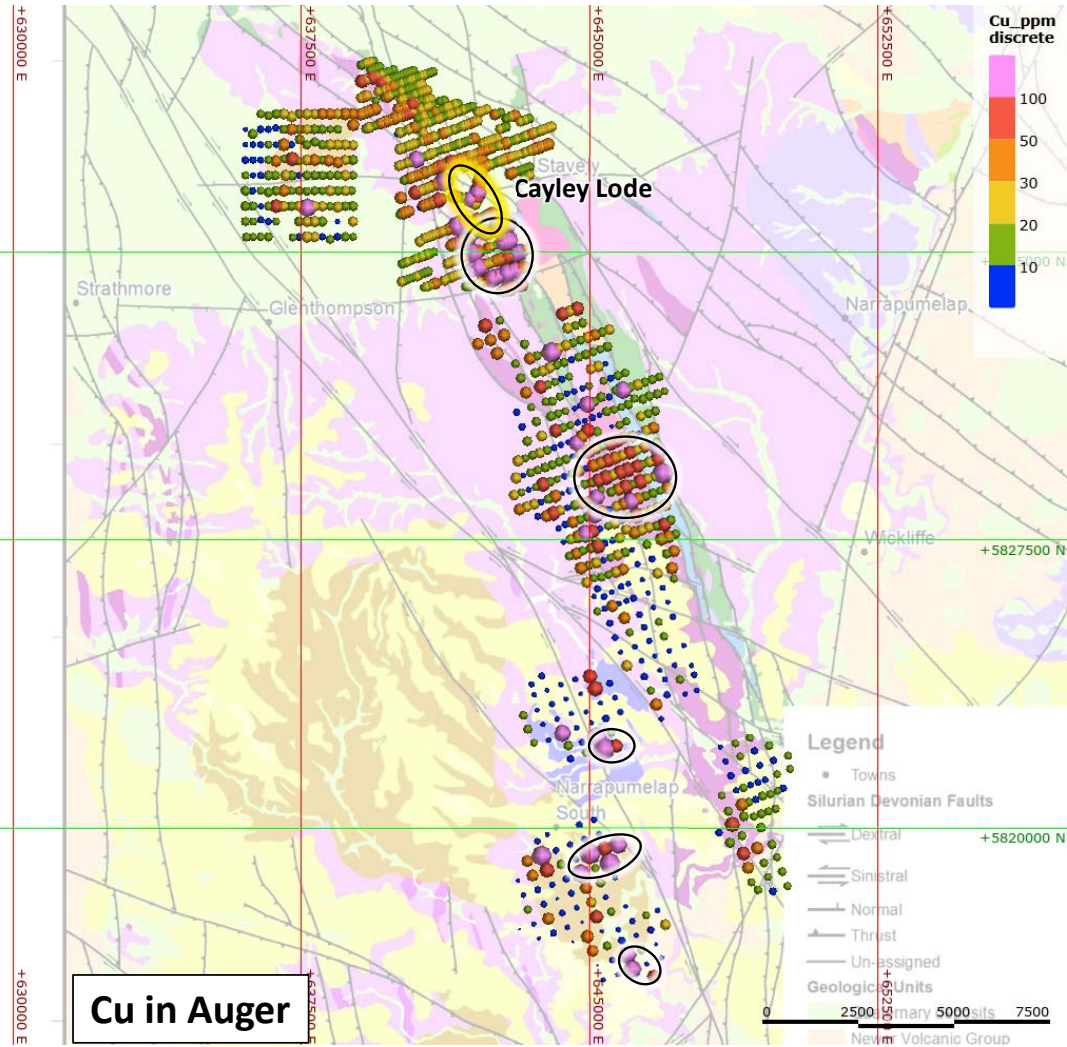
Simplified regional geology map for the Cayley Lode area (as provided by Staveley Minerals). The general location of the Cayley Lode resource is indicated for reference in the overlay.



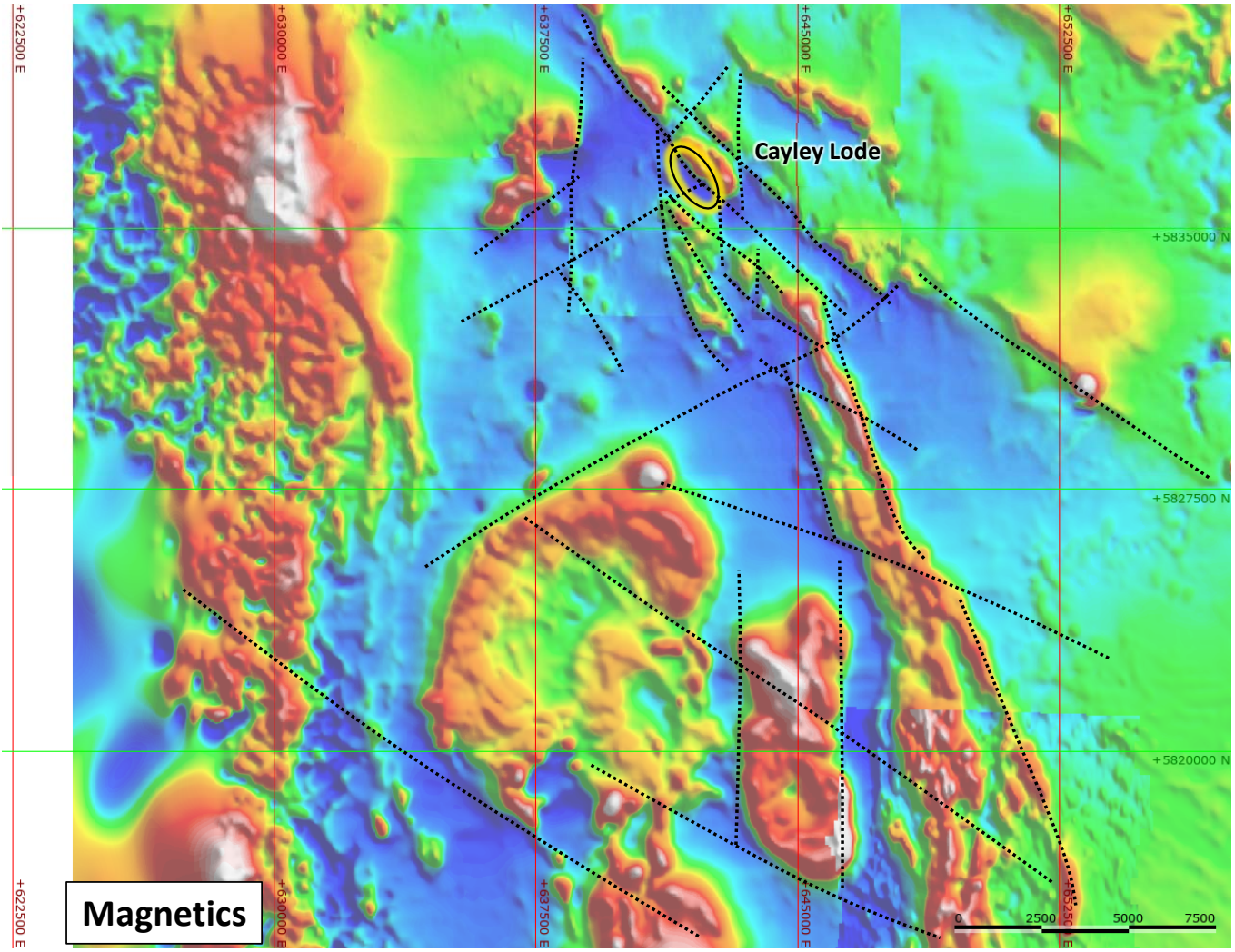
**Legend**

- Towns
- Silurian Devonian Faults**
  - ⇨ Dextral
  - ⇦ Sinistral
  - ┆ Normal
  - ┆ Thrust
  - Un-assigned
- Geological Units**
  - Quaternary deposits
  - Newer Volcanic Group
  - duricrust
  - Brighton Group
  - Paleogene deposits
  - Grampians Group
  - Buckeran Diorite
  - Bushy Creek Granodiorites
  - Fairview Andesitic Breccia
  - Lalkaldarno Porphyry
  - Nanapundah Tuff
  - Towanway Tuff
  - Williamsons Road Serpentinite
  - Chatsworth Basalt
  - Glenthompson Sandstone

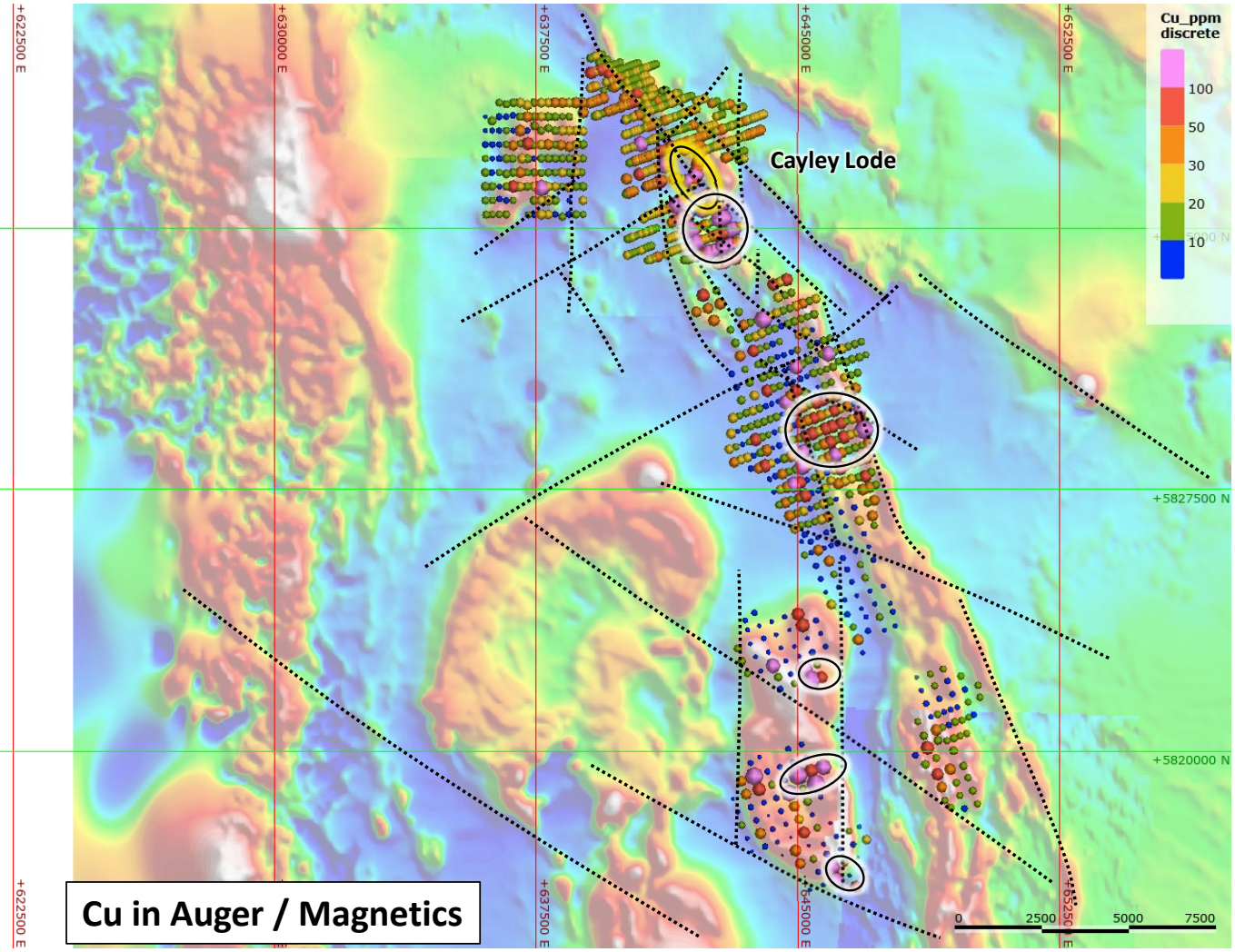
Copper in soil auger results shown on simplified regional geology map for the Cayley Lode area. The general location of the Cayley Lode resource is indicated for reference in the overlay. There are several areas that are characterized by anomalous surface copper results, including the existing resource. The most significant surface copper anomalies external to the Cayley Lode area are shown in the final overlay as black outlines. Some of these Cu-anomalous areas occur at the intersection of NW- and ENE-striking faults.



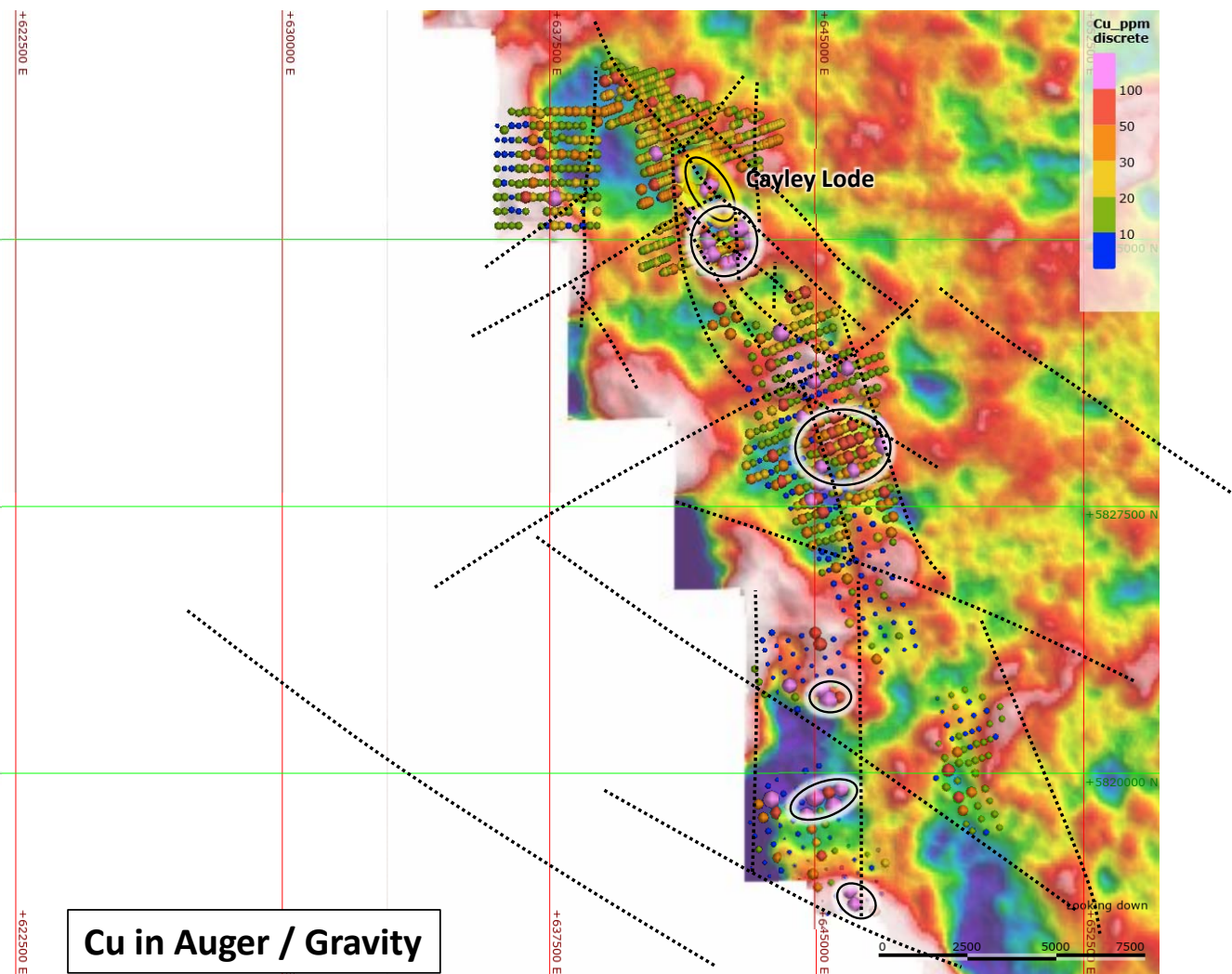
Regional airborne magnetics total magnetic intensity (TMI) image for the Cayley Lode region (as provided by Stavely Minerals). The general location of the Cayley Lode resource is indicated for reference in the overlay. The final overlay shows a simple hand-drawn interpretation of magnetic gradients and disruptions in magnetic trends, which shows NW-, NNW- to N- and NE-trending lineaments. This interpretation of the magnetics data could be improved by additional processing to reduce the contribution of the highly magnetic ultramafic unit to the color-stretch in the images and enhance the magnetic gradients at varying wavelengths. It is suggested that Stavely obtain a quote for such work from Fathom Geophysics.



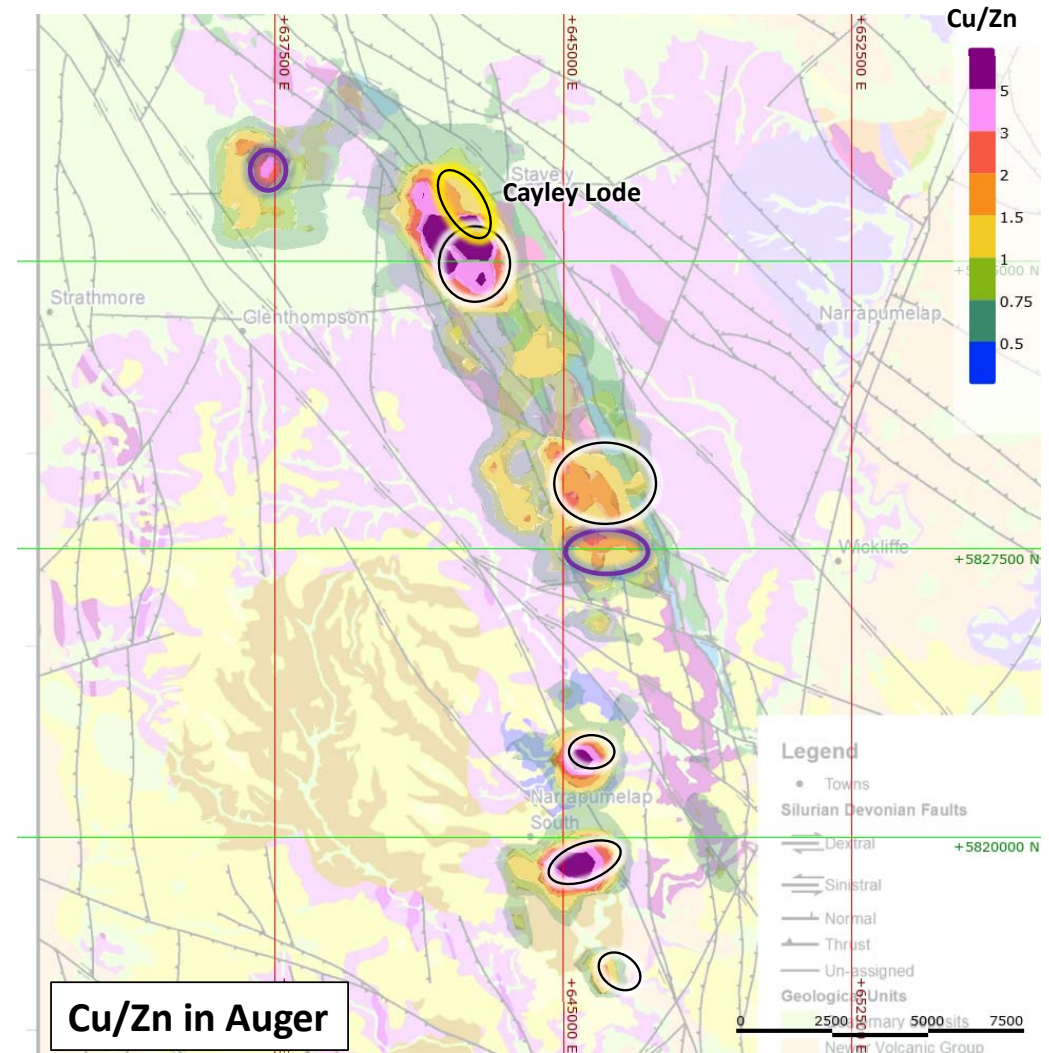
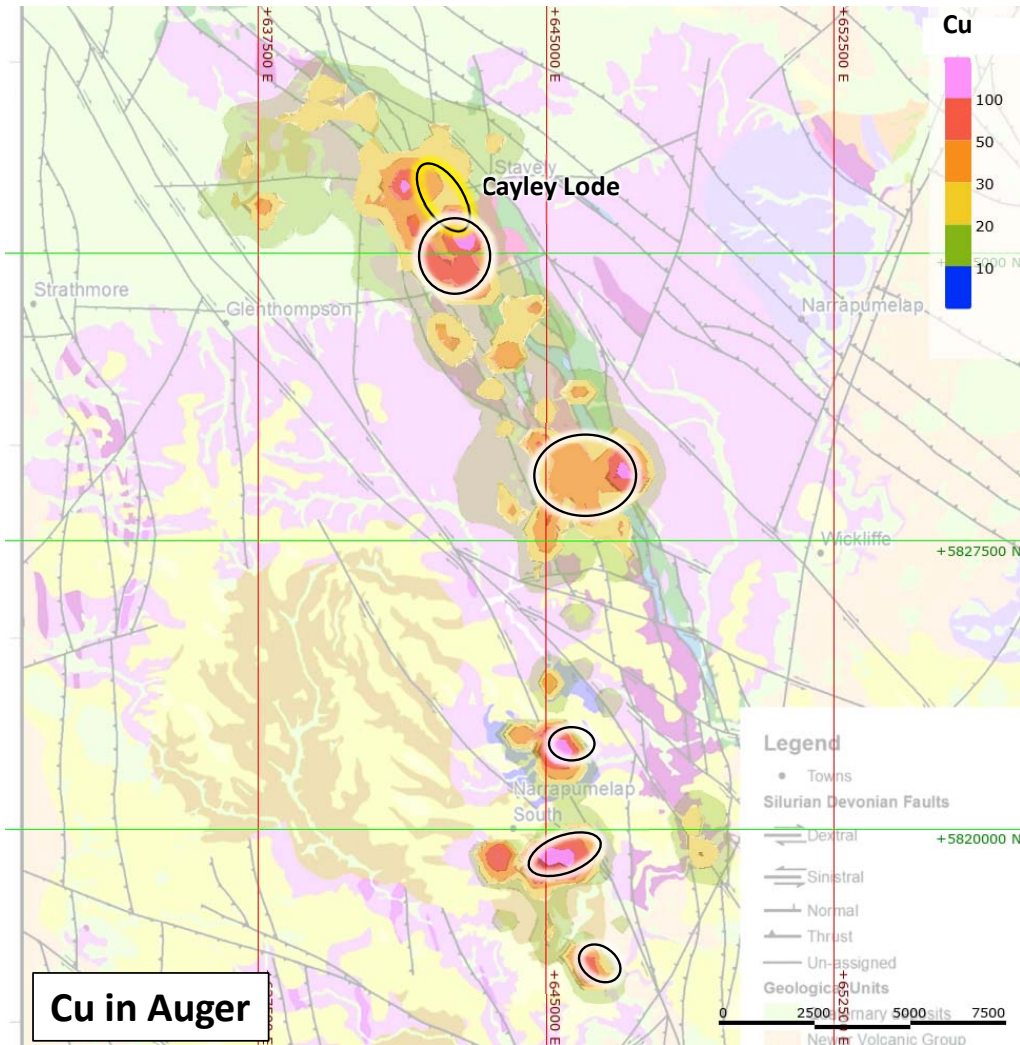
Copper in soil auger results shown on the regional airborne magnetics TMI image for the Cayley Lode area. The general location of the Cayley Lode resource is indicated for reference in the overlay. The second overlay shows a simple hand-drawn interpretation of magnetic gradients. There are several areas that are characterized by anomalous surface copper results, including the existing resource. The most significant surface copper anomalies external to the Cayley Lode area are shown in the final overlay as black outlines. Some of these Cu anomalies lie near the intersection of N- to NNW- and NW-trending magnetic lineaments. NE-trending magnetic lineaments occur in the Cayley Lode area and elsewhere.



The 1-km residual gravity image for the Cayley Lode area, shown with an overlay of copper in soil auger results. The general location of the Cayley Lode resource is indicated for reference. There are several areas that are characterized by anomalous surface copper results, including the existing resource. The most significant surface copper anomalies external to the Cayley Lode area are shown in the overlay as black outlines. The final overlay shows the magnetic lineament interpretation. The Cayley Lode and some of the other the copper target areas coincide with the margins of gravity lows and zones of intersecting magnetic lineaments.

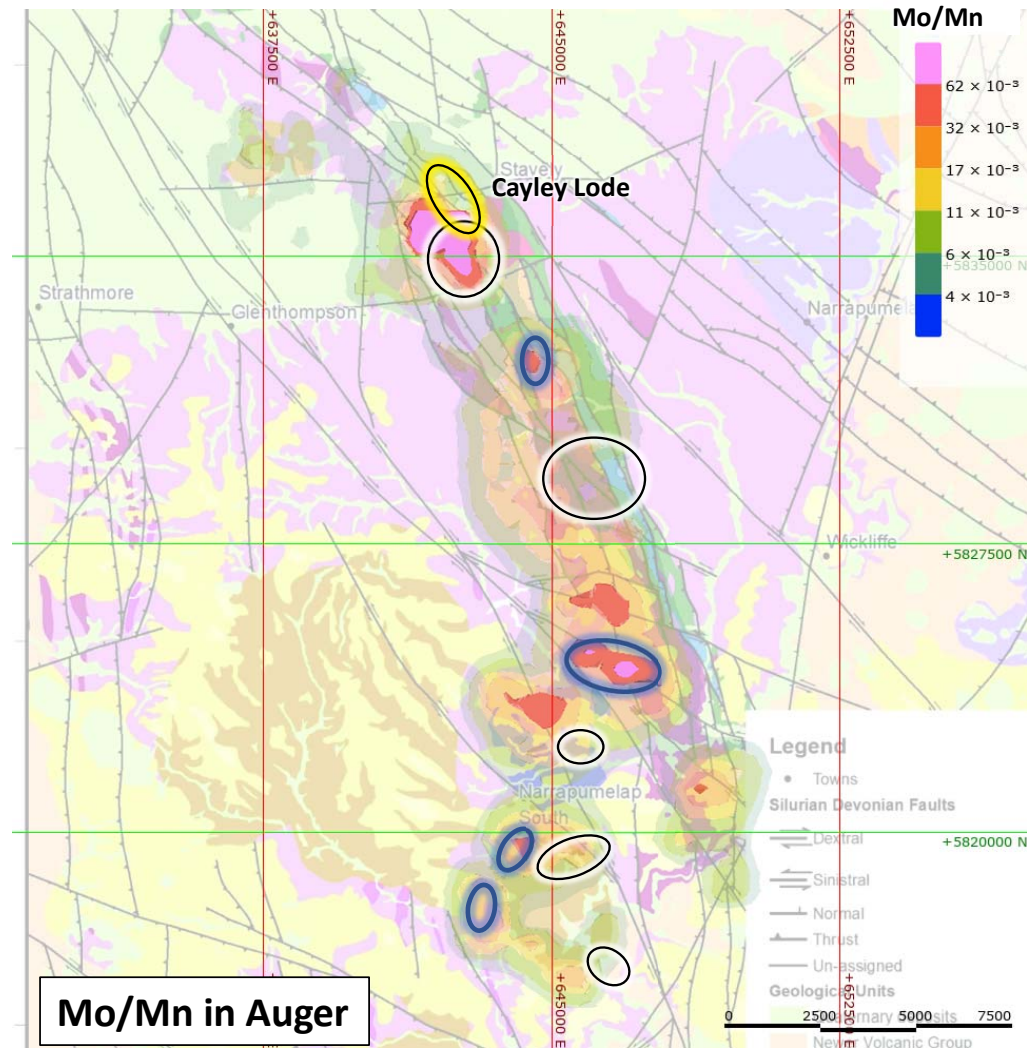
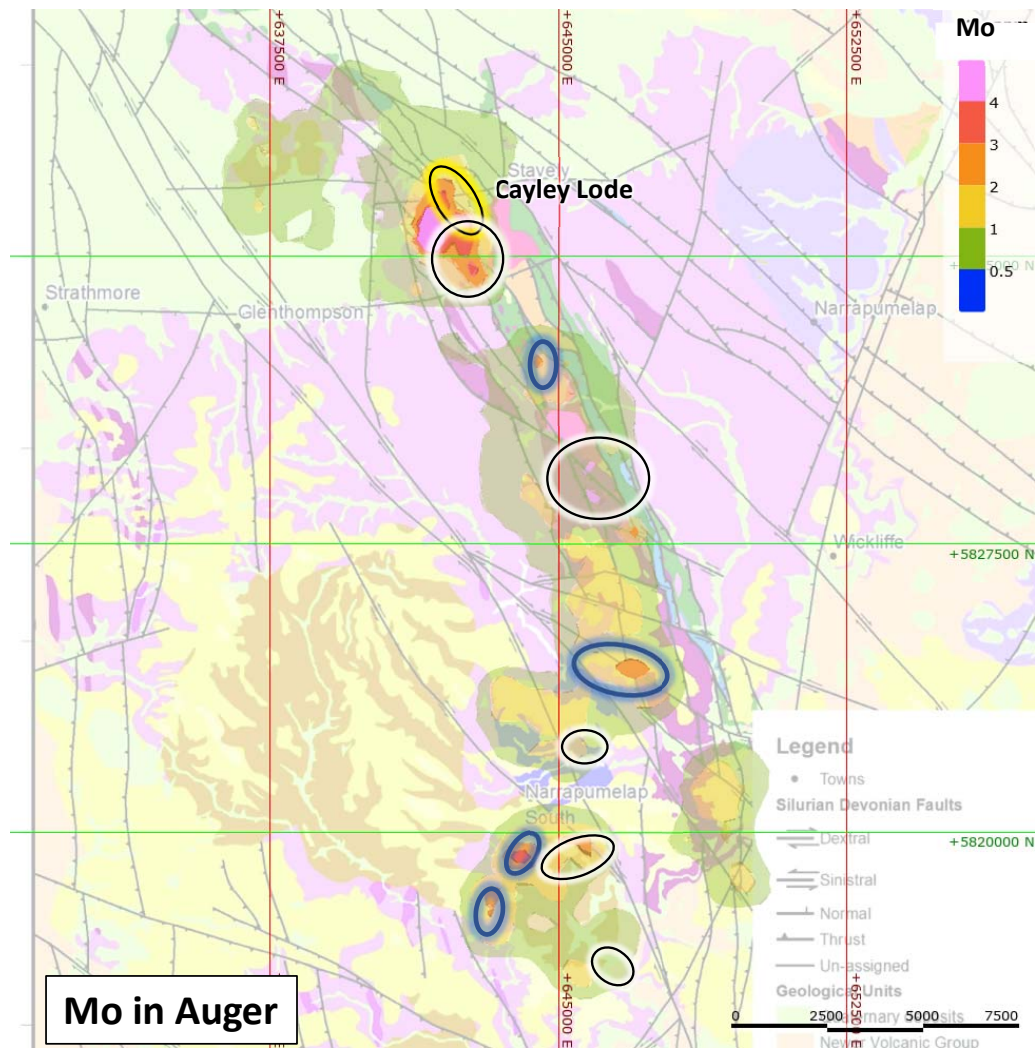


Copper and Cu/Zn in soil auger results shown on simplified regional geology map for the Cayley Lode area. The general location of the Cayley Lode resource is indicated for reference in the overlay (black-yellow outline). There are several areas that are characterized by anomalous surface copper results, including the existing resource. The most significant surface copper anomalies external to the Cayley Lode area are shown in the second overlay as black outlines. The final overlay illustrates areas of high Cu/Zn (black-blue outlines) that occur external to the copper anomalies.





Molybdenum and Mo/Mn in soil auger results shown on simplified regional geology map for the Cayley Lode area. The general location of the Cayley Lode resource is indicated for reference in the overlay (black-yellow outline). There are several areas that are characterized by anomalous surface copper results, including the existing resource. The most significant surface copper anomalies external to the Cayley Lode area are shown in the second overlay as black outlines. The final overlay illustrates areas of high Mo and Mo/Mn (black-blue outlines) that occur external to the copper anomalies.



# Cayley Lode Area Geological Interpretation Summary and Conclusions

- Early porphyry systems, northern QDP and Mt Victor, overprinted by high-sulfidation lodes: Cayley, NS and CLS
  - Northern QDP cupola characterized by elevated Cu and Cu/Zn; central A-veins and anhydrite veins; proximal to distal D-veins; and distal epidote and carbonate veins
  - Majority of vein data collected from northern QDP; much less data for Mt Victor QDP and Cayley Lode
  - Secondary biotite in northern QDP (SMD41), Mt Victor (SMD46) and SE Cayley Lode (SMD182) consistent with potassic alteration associated with porphyry centers
- Metal- and mineral-zoning in Cayley Lode provides a vector towards a Cu-Au-Ag-rich core in the SE part of the lode with potential to host a porphyry cupola beneath the Low-angle structure near holes SMD159, 160-163, 173 and 182 – *This is a high-priority drill target*
  - Restoration of ~ 500m of northerly offset of the LAS hangingwall allows for the extension of moderately NW-plunging Cu ore-shoots beneath the LAS
  - The ratio of visually logged chalcopyrite to pyrite in drill-core provides the best vector towards the potential cupola at depth in the southeastern part of the Lode
  - Other vectors include: Cu, Cu/Zn, Cu/S, Ag/Pb, K/Na and the increase in intensity of Mg-chlorite and paragonitic white-mica alteration (based on Halo analyses)
  - Assemblage of massive chalcopyrite-hematite-magnetite-chlorite-quartz-(pyrite) and lesser chalcopyrite-quartz vein stockworks observed in SMD159, 173 and 182 inferred to indicate proximity to porphyry cupola
  - Potential ore tonnage limitations to this target include post-mineralization (low-grade) dykes and low-angle thrust faults
- Evidence for SW-plunging vector ( $-50^{\circ}$ → $145^{\circ}$ ) to increased Cu-Au-Ag grades and potential cupola provided by sulfide-bearing vein measurements in the SE target zone, which is formed by the intersection of a N50°E / 50°SE cross-structure with the steeply SW-dipping Cayley Lode
  - This NE-striking cross-structure intersects the obtuse bisectrix to a northerly-elongate rhomb (2.5 km by 1.0 km) outlined by N- and NW-trends defined by the surface projections of anomalous Cu and Cu/Zn in drill-hole; the rhombic outline is well-supported by an elevated EM conductivity response
  - The SE target lies at the intersection of the NE-structure with the Cayley Lode; a second target occurs at the intersection of the NE-structure with the NS structure and lamprophyre dike (southwestern Mt Victor)
  - The outline of the rhombic Cu zone coincides with the distribution of hydrothermal alteration mapped from near-surface drill-hole intervals
  - The NE cross-structure is characterized by central advanced argillic alteration and flanking intermediate argillic (chl-ser-clay) and phyllic (qtz-ser-pyr) alteration, which has been attributed to the Mt Victor porphyry – This geometry may suggest that the two targets represent younger mineralized intrusions that have ascended along the western and eastern shoulders of the Mt Victor porphyry system
  - Additional targets are distributed along the outer margins of the Cu-rhomb, south of the NE-structure, as identified by anomalous Cu/Zn in soil auger
- District-scale longitudinal section analysis indicates several Cu-targets based on drill-hole results, which are characterized by:
  - Central: increased Cu, Cu/Zn, Cu/S, Ag/Pb, K/Na and chalcopyrite / pyrite
  - Proximal: elevated Mo, Mo/Mn, Au/Cu, Au/Ag and others
- Regional geological setting places Cayley Lode at intersection of NW-striking / SW-dipping thrust faults with an ENE-striking / S-dipping normal fault
  - Similar fault patterns characterize regional Cu-targets, which are supported by magnetic- and gravity-results and anomalous soil auger Cu, Cu/Zn, Mo and Mo/Mn data

# Cayley Lode Area - Recommendations

- Expand vein type and abundance logging to include Mt Victor and the southeastern portion of the Cayley Lode
  - Consider logging veins by volume percent rather than frequency per meter; If this is done, the team will need to convert previous measurements to vol. %
- Future emphasis on volume-percent logging of sulfide minerals and hematite, rather than assigning ranges
  - This will sharpen the focus on those minerals that contain Cu-Au-Ag and assist in determining more accurate vectors to ore (e.g., chalcopyrite / pyrite)
  - Initial focus of relogging should be for drill-holes in the southeastern part of the Cayley Lode and near Mt Victor, that lie near the NE-striking cross-structure
- Consider re-processing magnetic data and potentially gravity data, to enhance gradients at varying wavelengths
  - Request a quote from Fathom Geophysics (Amanda Buckingham) after providing her with a levelled and gridded magnetic database for the region
- Enhance understanding of sulfide-, oxide- and gangue-mineral textural relationships and paragenesis, and distribution / grain-size of gold in drill-holes SMD159, 173, 182 and other key holes that define the porphyry target in the southeastern part of the Cayley Lode, below the low-angle structure
  - These studies are in progress, using micro-XRF; Staveland should consider EDS / WDS Microprobe to determine the composition of the gold grains identified by micro-XRF
- Integrate results of calculated mineralogy to enhance the understanding of hydrothermal alteration zoning in the Cayley Lode – Mt Victor area
  - Provide feedback to Scott Halley with regards to the Cu-sulfide species in drill-core to assist in the refinement of the chalcopyrite and pyrite calculations
- Rate, rank and prioritize exploration targets near the Cayley Lode, district and region to determine future work programs and related budgets
  - Assess best exploration methods for each category of target
- Drill-test high-priority Cu-Au-Ag porphyry target at depth in the southeastern part of the Cayley Lode and southwestern part of Mt Victor QDP
  - Consider drilling holes inclined towards the east to test both NW- and NE-striking structures to create a nominal pierce-point spacing of ~ 120 m along the SE-plunging plunge-line intersection determined by structural measurements of sulfide-bearing veins and the trend of increasing chalcopyrite / pyrite
  - Drill-test the soil auger Cu and Cu/Zn anomalies along the southern margins of the rhombic-shaped zone defined by the surface-projection of Cu/Zn in drill-hole