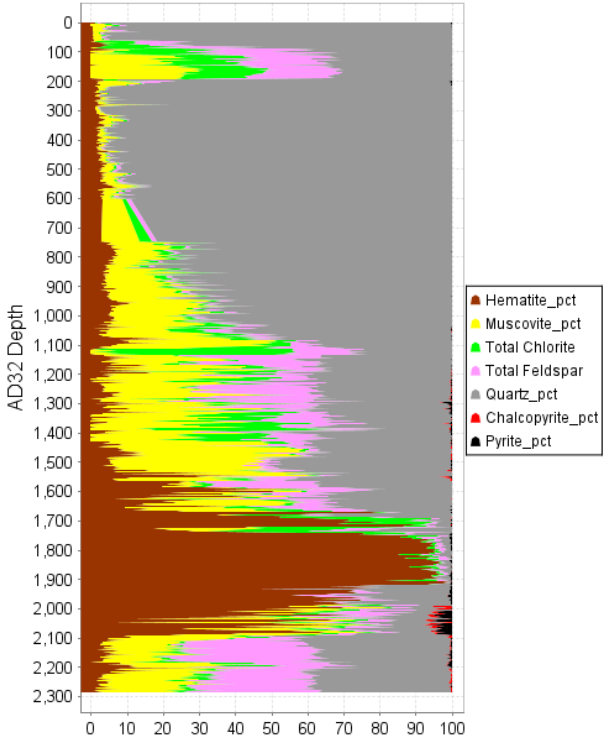
Comet Case Study



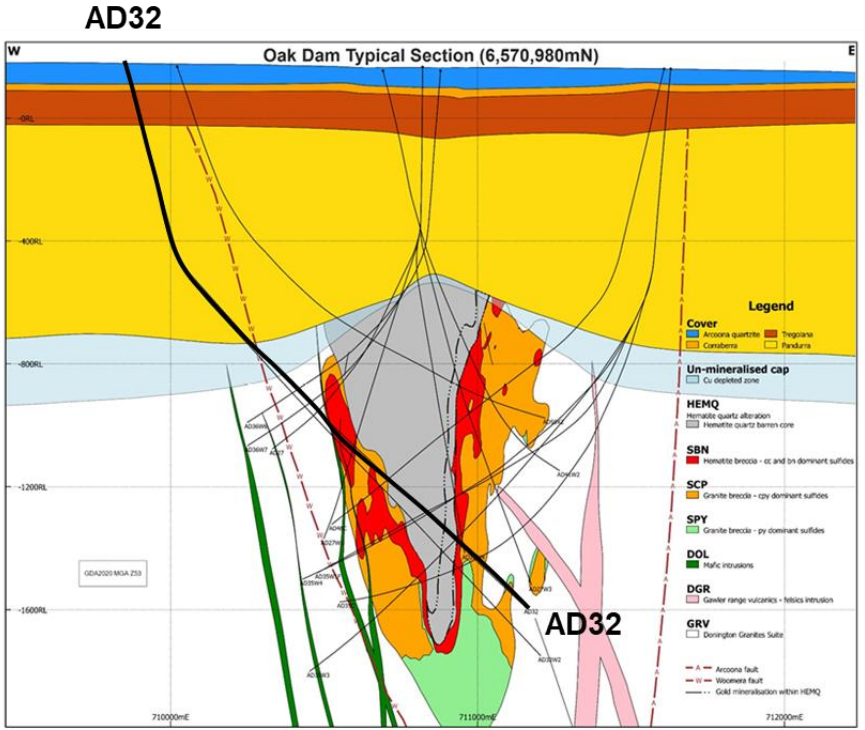


Figure 4. Representative cross-sections (6,570,980 mN)

This is a case study of the Comet system using drill hole AD32 from Oak Dam West.

Oak Dam West is a major iron oxide copper-gold deposit in the Gawler Craton of South Australia, approximately 65 km southeast of the Olympic Dam mine.

It has the same characteristics as Olympic Dam and Carrapateena.

In august 2024, BHP announced a total resource of 1.34 billion tonnes at 0.66% copper and 0.33 g/t gold, including 220 Mt @ 1.96% Cu 0.68 g/t Au in a bornite dominated domain at a 1% Cu cut-off.

The deposit is a hydrothermal breccia complex with a pipelike core of barren hematite-quartz, surrounded by a high-grade shell of chalcocite and bornite. Mineralisation is hosted in Donington Suite granitoids beneath approximately 700 to 950 metres of post-mineral sedimentary cover.

Some of the drill core is stored with the Geological Survey of South Australia, and BHP has made some of the assay data available through GSSA.

Comet is a mass balance calculation algorithm that estimates mineral percentages from assay data.

The software user interface sets up a list of minerals and compositions.

Solid solution variations are accounted for sample by sample.

It works on an optimization method to minimize Gibbs Free Energy.

The output is a csv file that looks like an assay table, but with percentages of minerals rather than elements.

The plausibility test is to create alteration diagrams from the assay table, with data points coloured by estimated mineral abundances.

Oak Dam West
Drill hole AD32

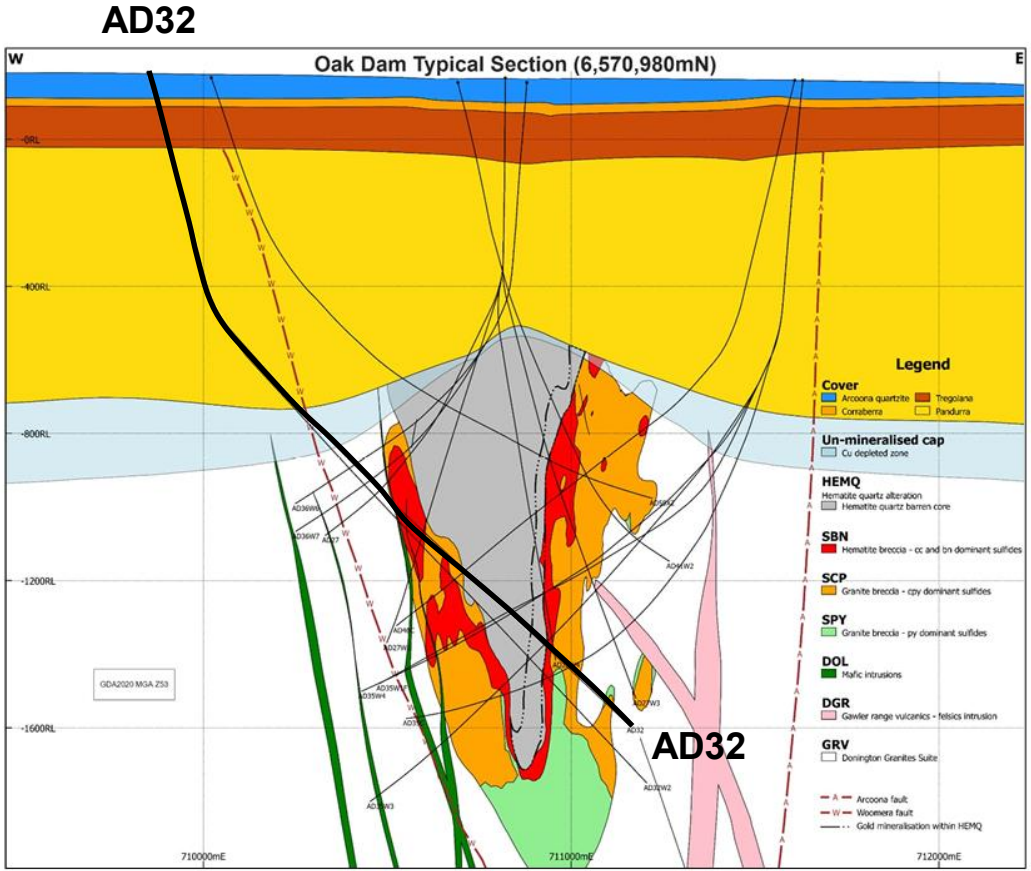
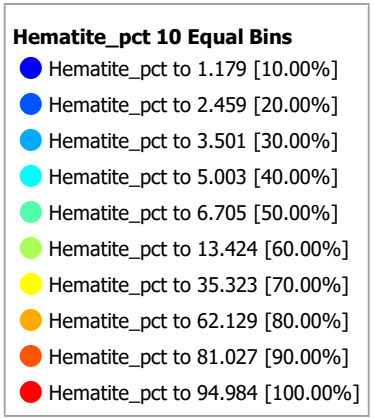
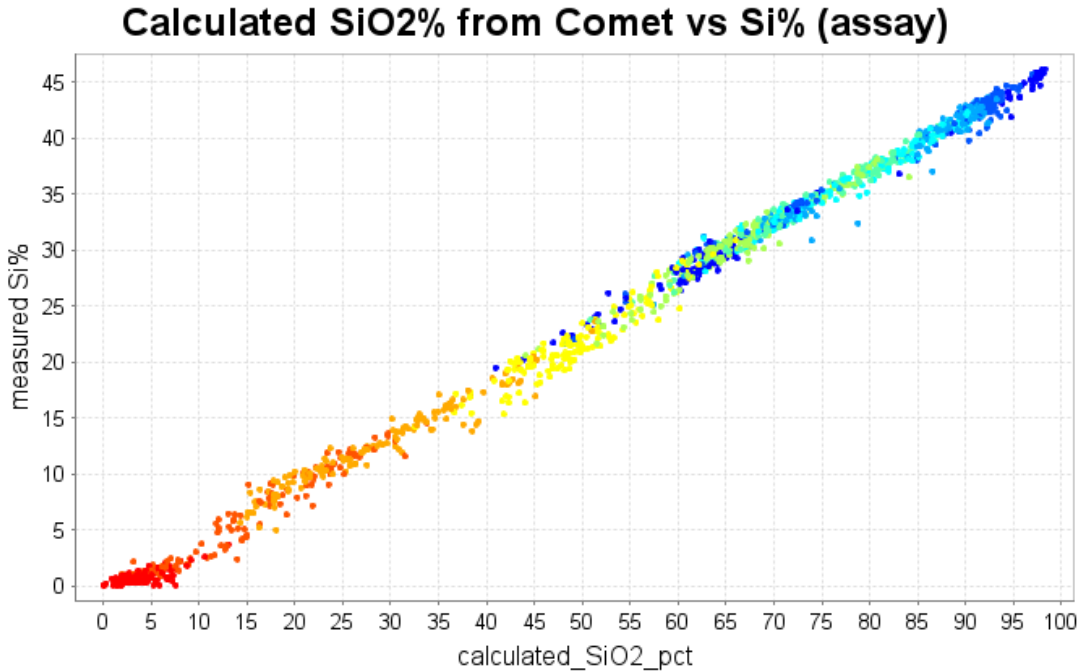


Figure 4. Representative cross-sections (6,570,980 mN)

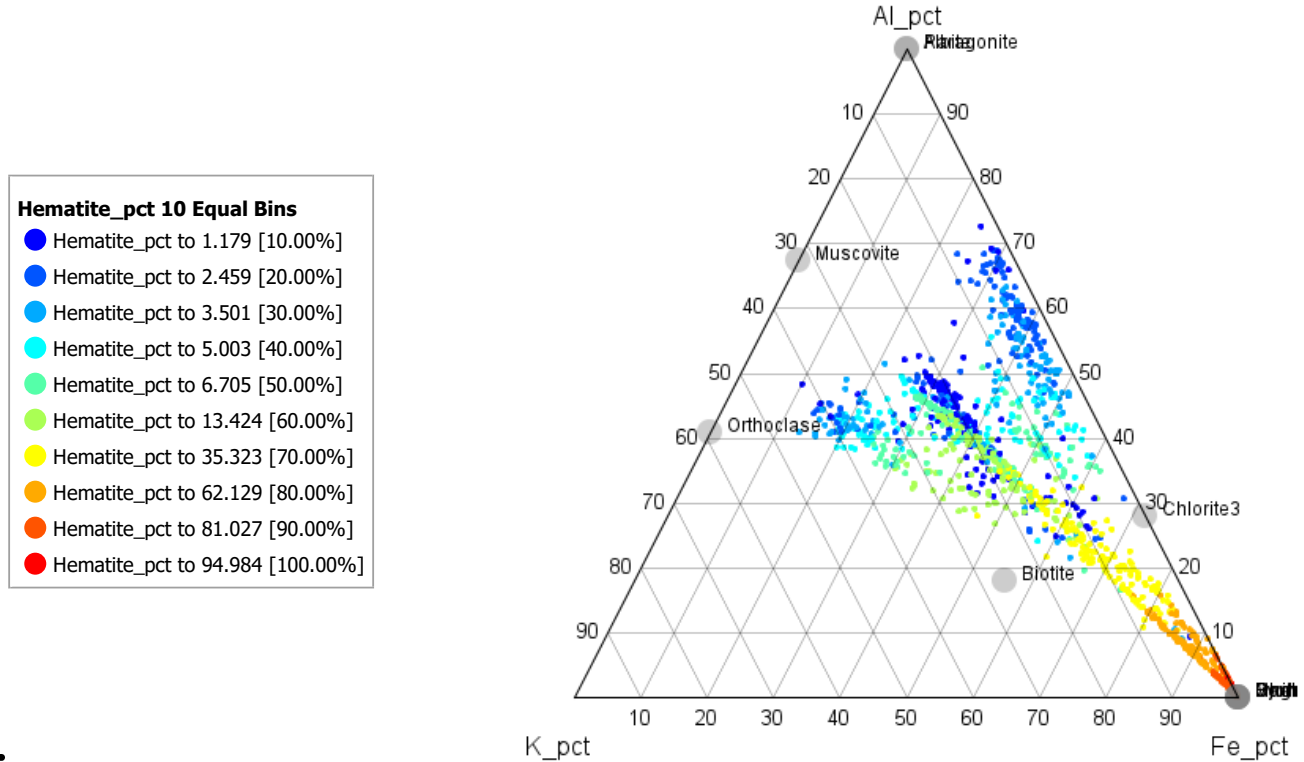
BHP Financial results for the year ended 30 June 2024, figure 4 appendix 2

The BHP data included analyses of silica, but Comet will work on 4 acid digest ICP analyses without Si. In this demonstration, the measured Si values were NOT used. This plot shows calculated SiO2 from Comet plotted against measured Si

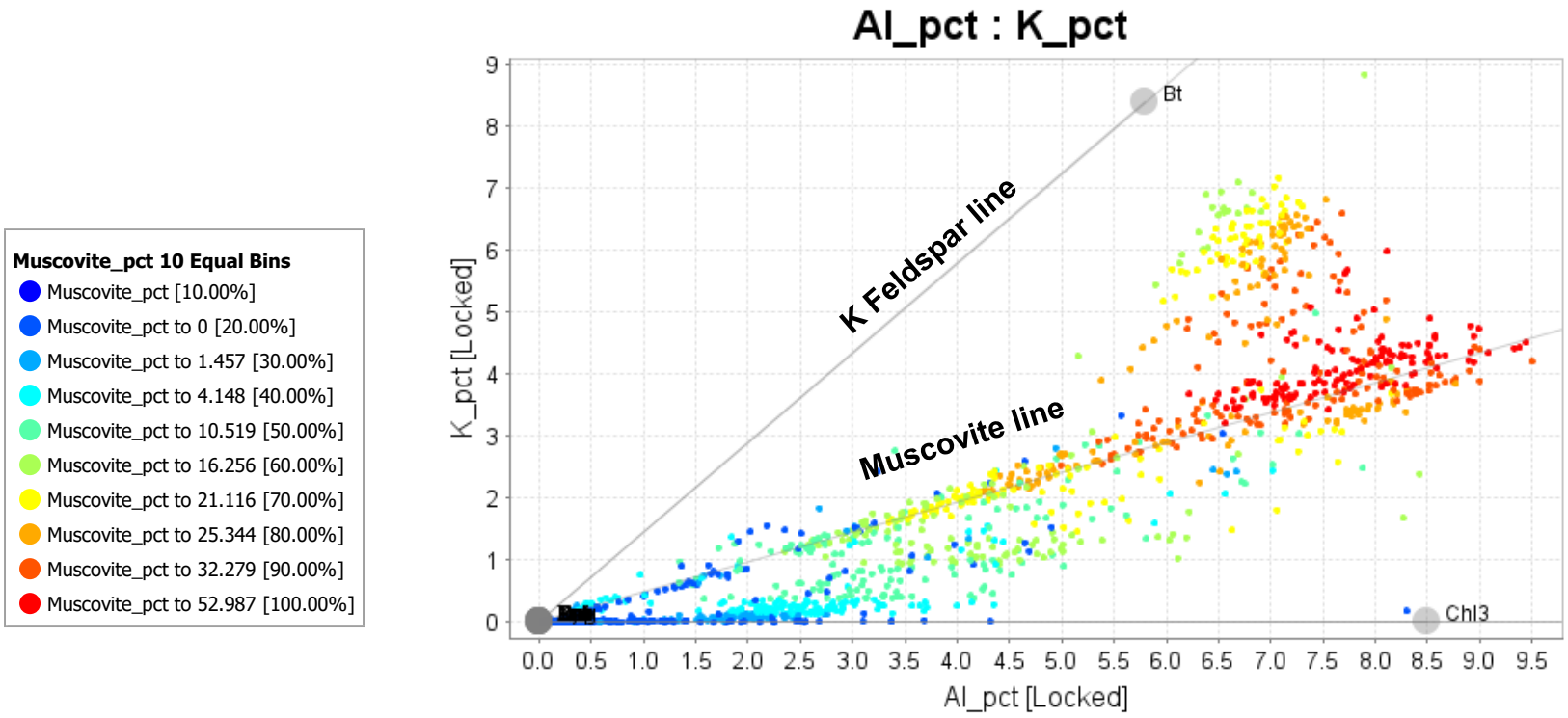




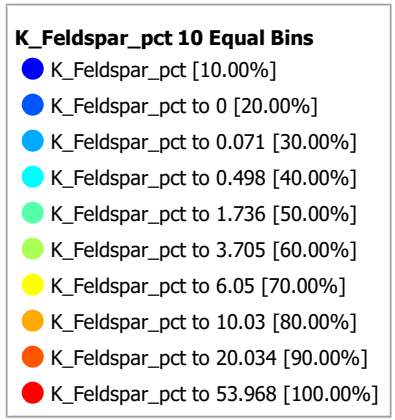
Al-K-Fe ternary coloured by estimated hematite%. Note the linear trend of data from the Fe-apex heading towards the muscovite node (hematite-muscovite +/- quartz)

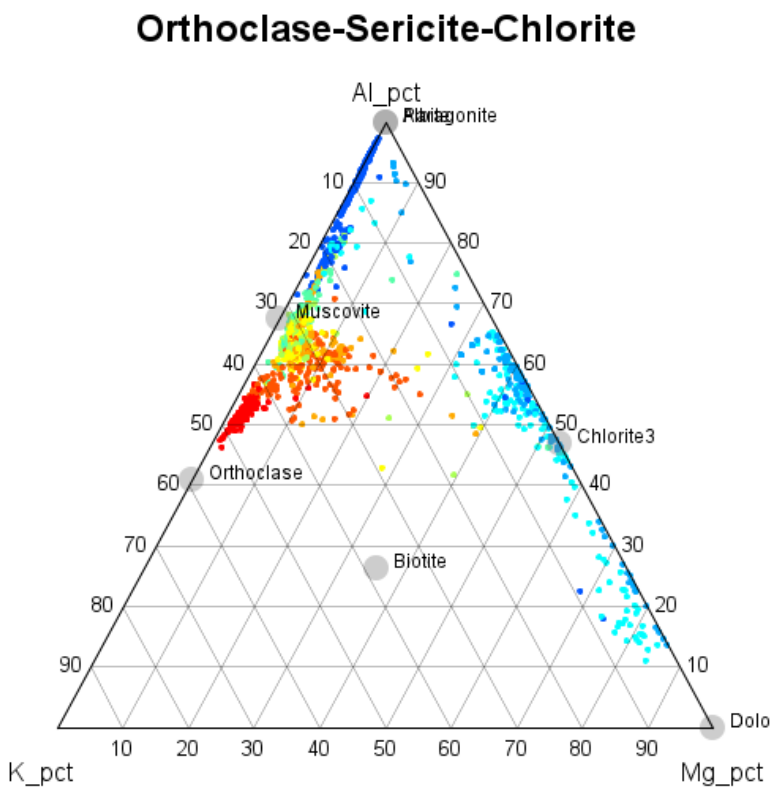


Al vs K coloured by estimated mica%.

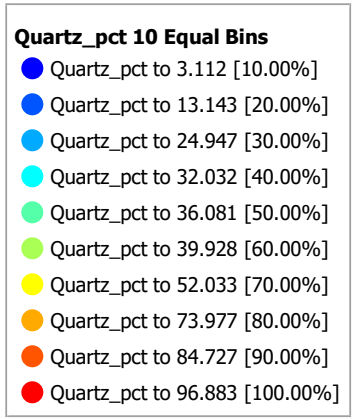


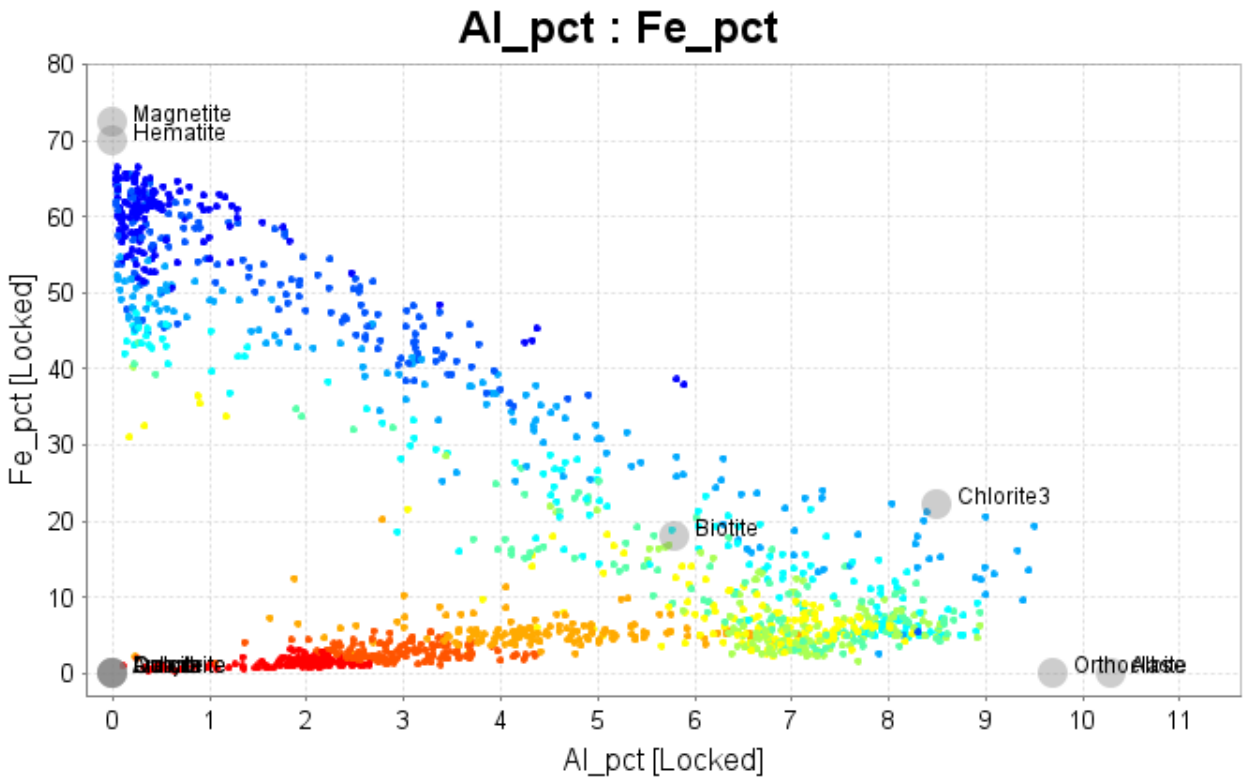
Al-K-Mg ternary coloured by estimated K Feldspar%.



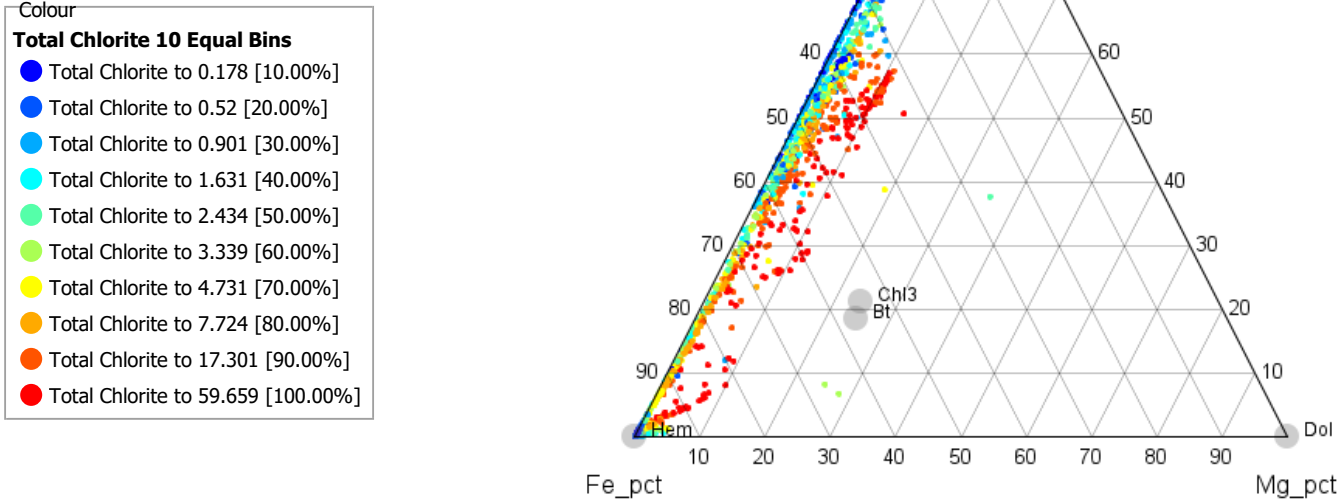


Al vs Fe ternary coloured by quartz%. Even though this was calculated with using Si%, the estimated quartz percentages are surprisingly accurate.

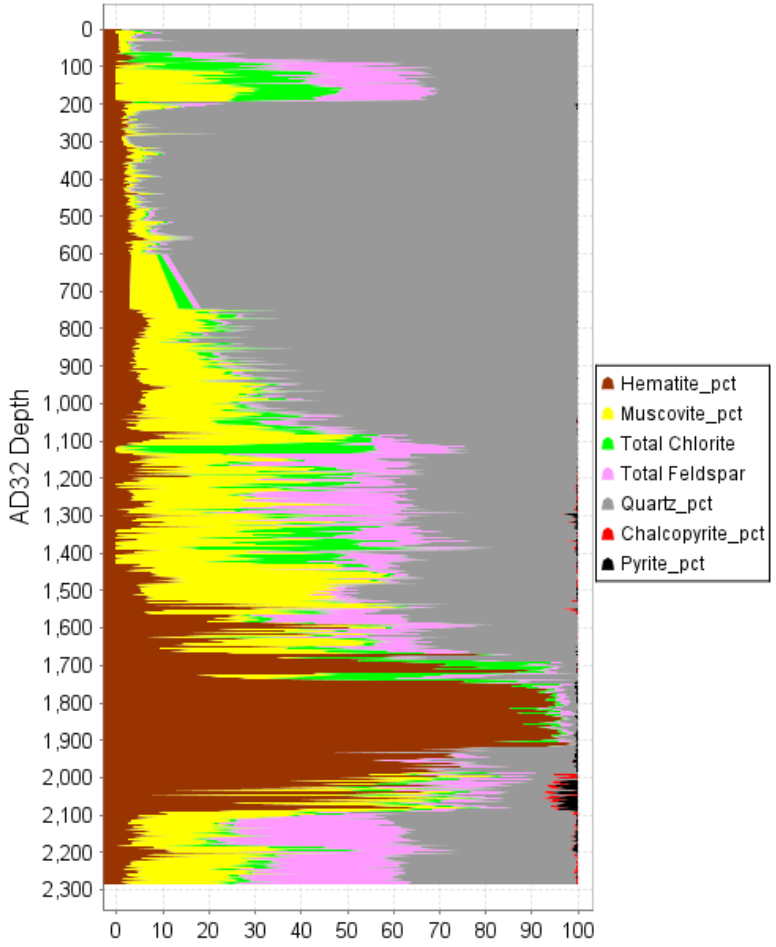




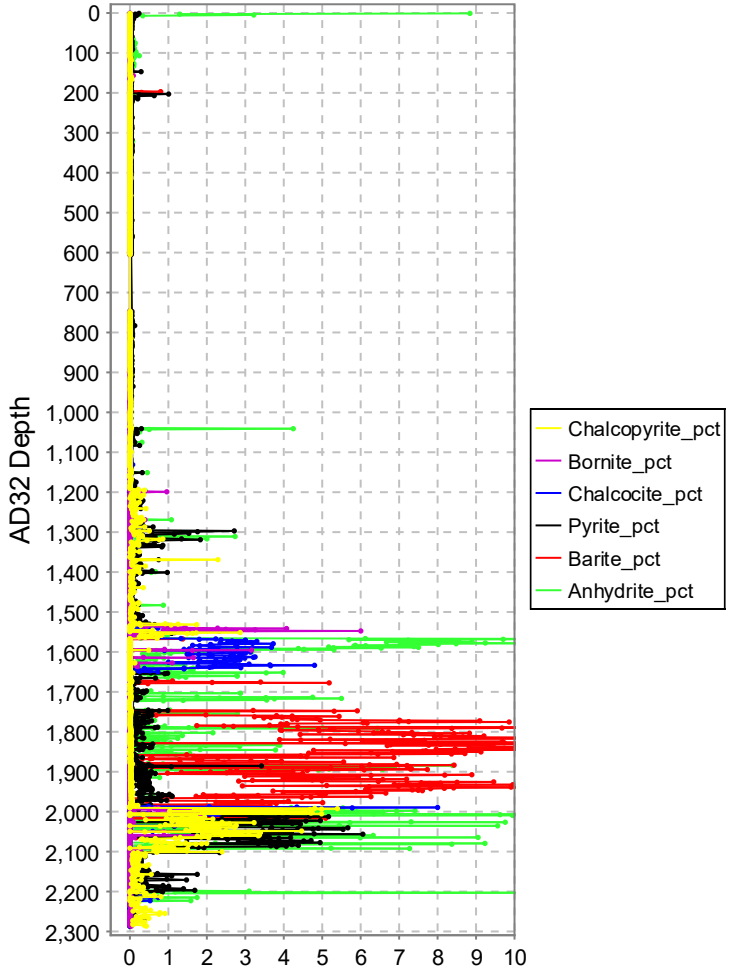
Al-Fe-Mg ternary coloured by chlorite%. Chlorite content is low, but widespread.



AD32.
Profile of major gangue mineral abundances



AD32.
If the sulfate minerals are calculated accurately then Comet can also estimate chalcopyrite vs bornite vs chalcocite.



If you would like to find out how you can apply Comet to your project, go to

https://www.fleetspace.com/comet

Or directly contact

Patricio Jaime; patricio.jaime@fleet.space