Characterization and modelling of data by Spotfire® in minerals processing

X-ray Mineral Services (XMS) recently conducted extensive data modelling for Geological Survey of Finland (GTK) as part of the BATCircle project.

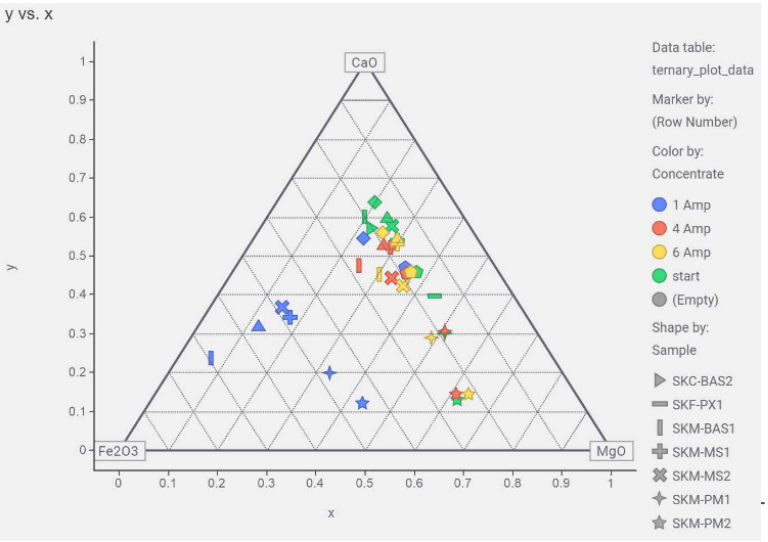
"**Metallurgical testwork for the geometallurgical orientation study of the Konttijärvi Ni-Cu-PGE-(Au-Co) deposit**" by GTK can be found at: https://tupa.gtk.fi/raportti/arkisto/15_2021.pdf

Data from all analytical techniques were subject to extensive Spotfire® as part of a geometallurgical orientation study for Suhanko Arctic Platinum's Konttijärvi deposit.

Our **META** (**M**inerals, **E**lements, **T**exture and **A**nalysis) service is a comprehensive materials characterization workflow. In this study XMS conducted mineralogical and elemental characterization test work for GTK as well as analysis using Spotfire® software as adapted by XMS for geometallurgy.

Spotfire® was used to consolidate data from the entire analytical programme which incorporated bulk mineralogy obtained from XRD method and bulk elemental analysis obtained from WD-XRF at XMS.

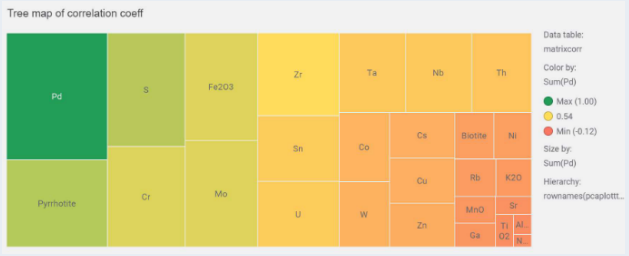
Spotfire® was used in data assessment and cross-validation of multi-disciplinary data in a single data visualization dashboard. This analytical platform was used to model the behavior of elements and minerals through various processing stages such as magnetic and gravity separation, and flotation. Spotfire® enabled the recognition and examination of distinct patterns, clustering and correlations within the data.



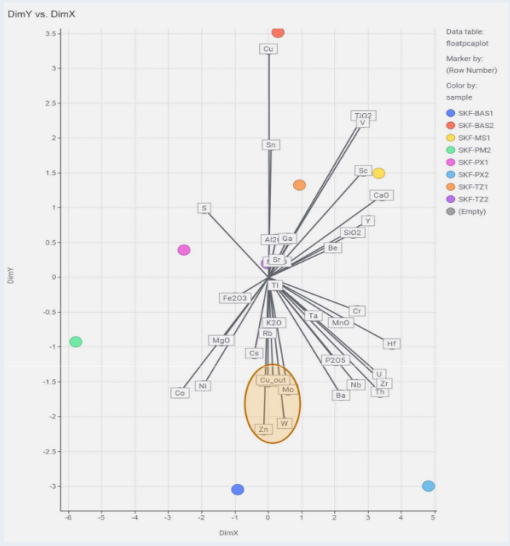
Magnetic separation recovery on a ternary plot between Fe_2O_3, MgO and CaO

This workflow enabled the relationship between elements and minerals to be established for assessment of optimal mineral processing for the recovery of valuable elements, such as Pd, Co and Cu.

Dr. Lorenza Sardisco, Chris Hughes & John Martin of X-ray Mineral Services UK & Hafren Scientific were credited as authors in the report.



Tree map of correlation coefficient for palladium recovery to different elements in feed samples



Principal Component Analysis of copper recovery showing strong association with Mo, W and Zn.

Innopoli 1
Tekniikantie 12
02150 Espoo
Finland

FINLAND: +358 41 3131 646
e: info@xrayminerals.fi