

SEG 2022 Conference: Minerals For Our Future

Combined pXRF and FTIR assays for Exploration and Grade control; Examples from SGS Field Analytical Services and Testing (FAST) Toolbox

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The talk focuses on the use of portable XRF(pXRF) and FT-IR spectroscopy on analytical grade pulp for exploration, grade and mill control. By using proven setups for sample preparation an analytical grade pulp (85% passing 75 micron) is analyzed with FT-IR using an Attenuated Total Reflection (ATR) setup as well as a loose powder with a modern pXRF. The talk will cover the limitations of each technology and the calibration approaches used by SGS to ensure fit for purpose data. We will show application examples for critical metal deposits such as Pegmatitic Lithium as well as for Bauxite deposits. Benefits of such combined chemical and mineralogical dataset's for modelling and use of calculated mineralogy are discussed for each of the two application scenarios.