

SEG 100 Conference: Celebrating a Century of Discovery

ST.099

High Resolution vs. Standard Resolution: How an Increase in Spectral Resolution Using a Field Portable Spectrometer Affects Quality of Data – A Case Study on Nickel Exploration

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Standard resolution of a field-portable spectrometer at 3 nm (UV), 8 nm (VIS), and 6 nm (NIR) has been used successfully in the geological remote sensing and mining industry for a variety of applications. Alteration mapping has been key for finding different mineral assemblages that indicate an area of interest. Using a higher-resolution field spectrometer has proven to be beneficial in understanding and identifying new features in a variety of different mineral groups and subgroups.

A study was conducted using three different field spectrometers, each with different resolutions. As you increase resolution, features that are not visible with a standard resolution spectrometer appear in all three ranges (UV, VIS, and NIR), thus yielding a better understanding of alteration changes and geochemical conditions.