

SPECTRAL EVOLUTION

Identifying Dickite with a Field Spectrometer

Dickite is a phyllosilicate clay mineral with the chemical formula $Al_2(Si_2O_5)(OH)_4$. It is part of the kaolinite group along with halloysite and nacrite and can be found in gold bearing high-sulfidation epithermal systems. It can be an indirect indicator of gold, lead, zinc and silver and can be useful in alteration mapping to vector to ore deposits. A characteristic alteration sequence and zonation for high-sulfidation epithermal deposits can consist of advanced argillic, argillic and propylitic alteration outward from the silicic core.

Dickite can be identified in the field with a SPECTRAL EVOLUTION mining spectrometer such as the oreXpress, oreXplorer or oreXpert running EZ-ID mineral identification software. Dickite has distinctive spectral absorption features as doublets at 1380 and 2200nm.

With an oreXpress, oreXplorer or oreXpert and EZ-ID alteration mapping can be done quickly and accurately in the field before investing in drilling and can be performed during core logging to find and map the ore deposit.

The oreXpress, oreXplorer and oreXpert are full range (350-2500nm) high resolution/high sensitivity spectrometers with a rugged design for field use. No moving optical parts provides for consistent and repeatable measurements in the field for years.

EZ-ID mineral identification software allows a geologist to identify minerals by matching to three libraries of over 1000 minerals and 2600 spectra. The libraries include the USGS library and the optional SpecMIN and GeoSPEC high resolution library. EZ-ID allows you to set-up match regions to focus on specific absorption features to unmix minerals from field samples. Match regions can be saved as pre-sets for quickly identifying similar minerals. In addition it provides scalars to enhance the geologist's understanding of crystallinity changes, alteration pattern shifts and geochemical conditions during formation.

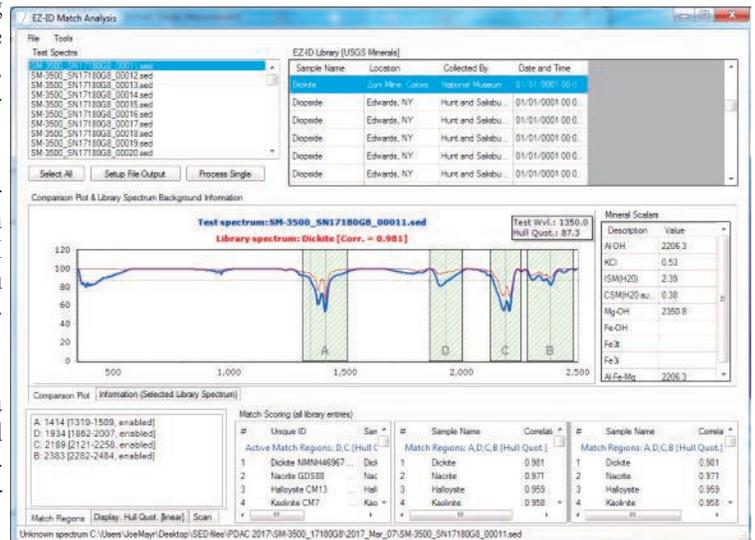
Our field spectrometers are available with a 10mm contact probe, a 3mm Miniprobe and a benchtop probe with compactor for powder samples. Our optional ALGIZ 8X tablet allows you to record and view your spectra as you take them and save with all associated data including photos of samples and GPS location.

Our spectrometers are controlled by DARWin SP Data Acquisition software which saves all associated data and spectra as ASCII files for use with other software programs such as The Spectral Geologist and Unscrambler chemometrics program from Camo Analytics.

oreXpress, oreXplorer, oreXpert and EZ-ID are trademarks of Spectral Evolution.



SPECTRAL EVOLUTION field spectrometers include the oreXpress, oreXplorer and oreXpert. They are carried in a backpack for field use and work with an optional ALGIZ 8X tablet.



A scan of a dickite sample identified by matching to the USGS library in EZ-ID mineral identification software.

26 Parkridge Road ♦ Suite 104
Haverhill, MA 01835 USA
Tel: 978 687-1833 ♦ Fax: 978 945-0372
Email: sales@spectralevolution.com
www.spectralevolution.com

