

SPECTRAL EVOLUTION

Garnet Exploration

The oreXpress portable NIR spectrometer with EZ-ID mineral identification software can be used in the field by a geologist to identify different garnet-related minerals. It is perfect for mineral mapping and identification before drilling to save on drill hole costs by eliminating unnecessary drill holes. It can also be used during core shack analysis to screen samples for assaying.

The oreXpress mobile mineral analyzer is lightweight and easy to use and collects high resolution/low noise spectra with autoexposure and auto-dark correction. Equipped with EZ-ID mineral identification software, it matches unknown mineral spectra against three libraries from the USGS, SPECMin and GeoSPEC to provide a match for mineral identification.

For garnet exploration, the oreXpress with EZ-ID has library spectra for almandine, uvarovite, pyrope, grossular, spessartine and andradite.

For almandine, the most common type of garnet, there are six samples in the combined USGS, SPECMin and GeoSPEC libraries available with EZ-ID. There are two samples for pyrope. Almandine and pyrope spectra can show absorption features near 500nm, 600nm, 700nm, and 1300nm. For andradite there are ten samples and for grossular five samples. Both of these garnet types exhibit absorption features at around 440nm and again in the 2200nm to 2400nm range. Uvarovite has three samples with prominent features at 400nm, 500nm and in the 2300nm to 2400nm range. There are four samples for spessartine, the rarest form of garnet with major features around 500nm and 1300nm.

In addition to matching against a library sample, EZ-ID allows geologists to build their own libraries while scanning samples and include all the metadata relevant to the sample such as location, operator, sample type, color, and other descriptive details. The result is a library of known samples from a specific project/region.

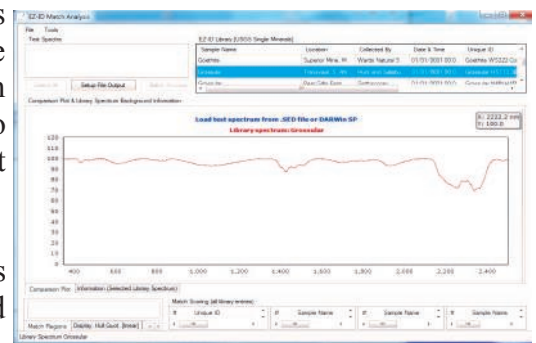
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Ore sample of almandine



A library spectrum of a known almandine sample



A sample from the USGS library of grossular

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

