

SPECTRAL EVOLUTION

Spectrometers for Mining



oreXpert

oreXplorer

oreXpress

	oreXpert	oreXplorer	oreXpress
Spectral Range	350-2500nm	350-2500nm	350-2500nm
Spectral Resolution	1.5nm @ 700nm 3.0nm @ 1500nm 3.8nm @ 2100nm	2.7nm @ 700nm 5.5nm @ 1500nm 5.8nm @ 2100nm	2.8nm @ 700nm 8nm @ 1500nm 6nm @ 2100nm
Si Photodiode Detector	1024 element TE-cooled Si array (350-1000nm)	1024 element TE-cooled Si array (350-1000nm)	512 element enhanced Si array (350-1000nm)
InGaAs Photodiode Detectors (TE-cooled)	512 element TE-cooled InGaAs array (1000-1600nm) 512 element TE-cooled extended InGaAs array (1600-2500nm)	512 element TE-cooled InGaAs array (1000-1600nm) 512 element TE-cooled extended InGaAs array (1600-2500nm)	256 element extended wavelength InGaAs array (1000-1900nm) 256 element extended wavelength InGaAs array (1900-2500nm)
Sensitivity Noise Equivalence Radiance (NER)	0.8x10 ⁹ W/cm ² /nm/sr@400nm 0.3x10 ⁹ W/cm ² /nm/sr@1500nm 5.8x10 ⁹ W/cm ² /nm/sr@2100nm	0.5x10 ⁹ W/cm ² /nm/sr@400nm 0.2x10 ⁹ W/cm ² /nm/sr@1500nm 2.5x10 ⁹ W/cm ² /nm/sr@2100nm	0.8x10 ⁹ W/cm ² /nm/sr@400nm 1.2x10 ⁹ W/cm ² /nm/sr@1500nm 1.8x10 ⁹ W/cm ² /nm/sr@2100nm

oreXpert—highest resolution field spectrometer with high sensitivity, accurate scans for mineral identification and analysis. Crucial for seeing additional features and unmixing different minerals from samples.

oreXplorer—higher resolution/high sensitivity for identifying hard to unmix minerals with similar features

oreXpress—quick reliable mineral analysis with a standard resolution of 3nm.

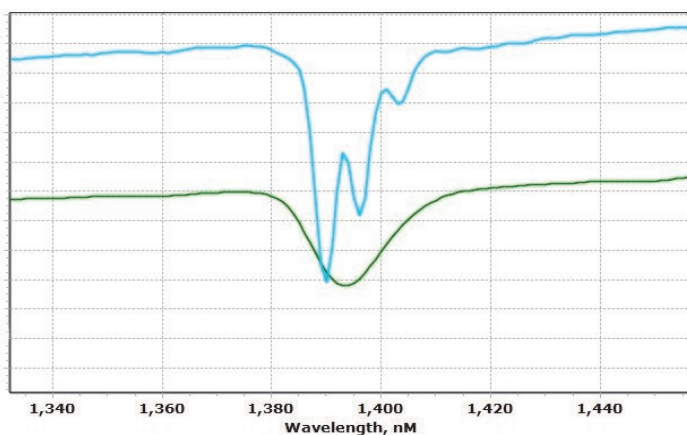


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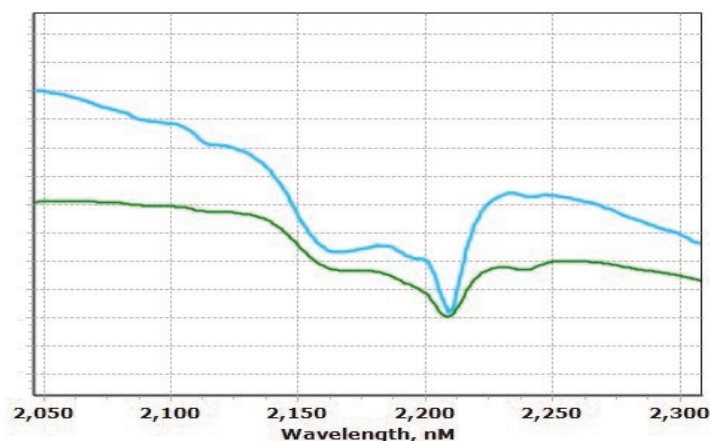
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Comparison scans of the oreXpert and the oreXpress



A close-up of scans taken with the oreXpert and the oreXpress field spectrometer of a talc sample. Here you can see the dramatic difference the higher resolution capabilities of the oreXpert bring to the spectra. The spectra shows a distinct triplet where the standard spectrometer shows a single shallow absorption feature.

oreXpert is blue scan. oreXpress is green scan. Scans offset for comparison.



A close-up of scans taken with the oreXpert and an oreXpress field spectrometer of a clay sample primarily composed of kaolinite. The spectra from the oreXpert not only shows the major absorption features at a higher resolution, it also uncovers additional spectral features not seen in the standard scan.

oreXpert is blue scan. oreXpress is green scan. Scans offset for comparison.



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