NIR spectroscopy is an important tool for uranium exploration of all types of deposits as a non-contact, non-destructive method for identifying specific clay minerals that can indicate proximity to uranium. Whether a geologist is looking for unconformity related uranium deposits (familiar from Canada’s Athabasca Basin) or other types of deposits, a rugged NIR field spectrometer like the oreXpress™ and oreXpress Platinum can significantly increase the speed, accuracy, and profitability of the mineral identification process. Using an oreXpress spectrometer and SPECTRAL EVOLUTION’S EZ-ID™ software can result in fewer drill holes and better results.

In addition to unconformity related deposits, geologists can search for other types of deposits that include:
- Hematite breccias
- Sandstone
- Quartz-pebble
- Surficial
- Vein
- Volcanic and caldera-related
- Intrusive
- Metasomite
- Phosphorite
- Black shale

An oreXpress or oreXpress Platinum™ spectrometer can be easily used by one person in the field to identify distinct geochemical signatures and alteration halos associated with uranium mineralization. The following minerals are a few of those that can be identified and associated with alteration halos:
- Uraninite
- Sericite
- Chlorite
- Kaolinite
- Illite
- Dickite
- Pyrite
- Chalcopyrite

Using EZ-ID with the USGS spectral library, or the SpecMIN™ library available from Spectral International, the software quickly provides accurate matching of an unknown target with a known mineral spectra. With an oreXpress spectrometer and EZ-ID software, a geologist can identify minerals indicating uranium in real-time, take a lot of samples, cover more ground, and provide better targeted drilling. In the core shack, faster scanning, more accurate logging and data collection can save on assay costs.

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