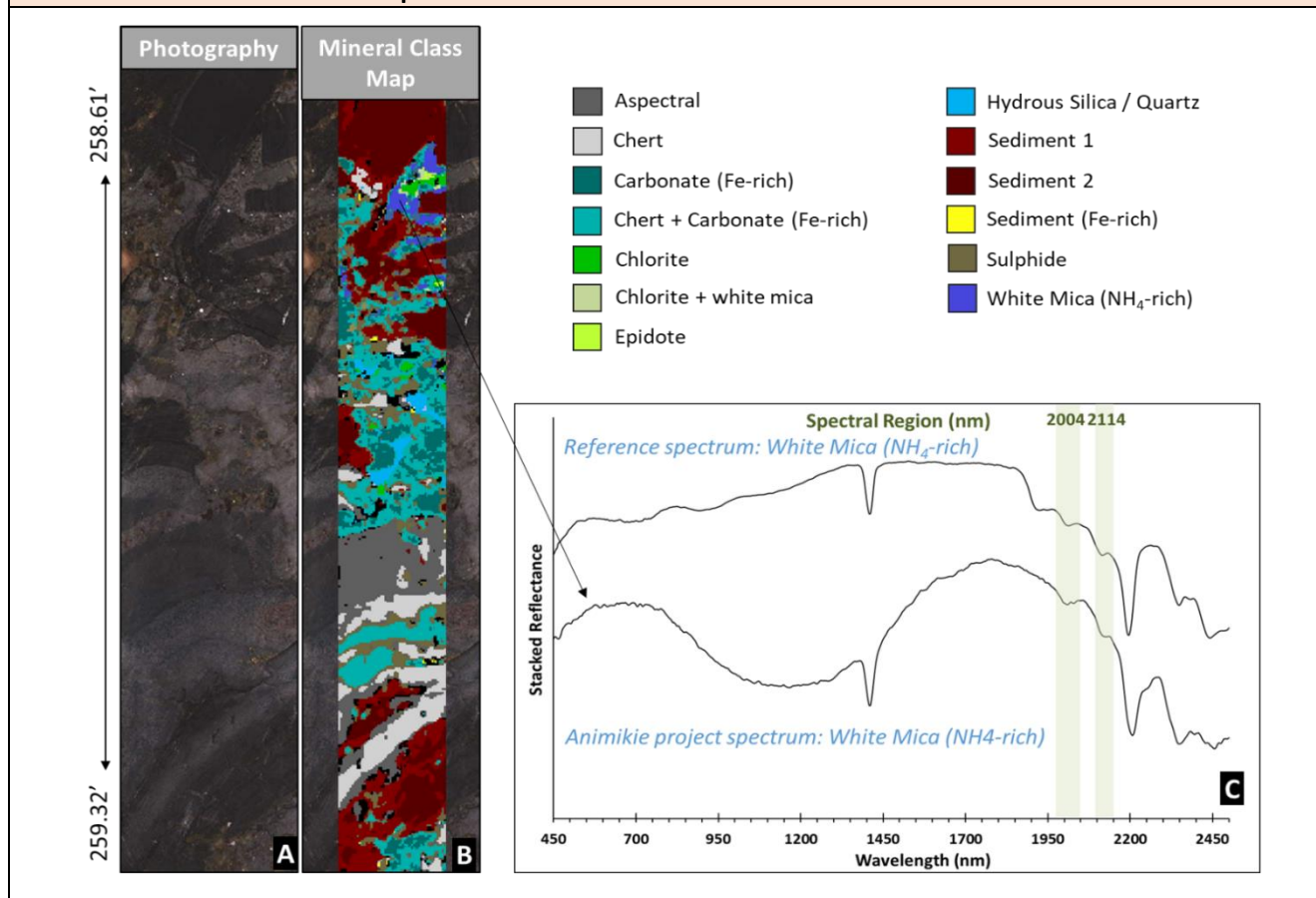


# MnDNR Corescan Project

## Animikie Core – Example Results



Photography (A) mineral class map (B) of DDH LM-13-01. Inset spectra (C) of NH<sub>4</sub>-bearing white mica (intermixed with trace chlorite) displaying the ammoniated feature around 2004 and 2114 nm (Canet, 2015).

<p><b>Hyperspectral-detected Mineralogy</b></p>	<p>The Animikie core included in this project consist predominantly of banded intervals of ferruginous and cherty sediments. Many minerals/mineral groups can be identified in the VIS-SWIR range, including phyllosilicates (micas, chlorites), ammoniated white mica, iron oxides, clays, carbonates and chert. See associated Mineral Key for full list of identified mineralogy with the Corescan HCl-3 system.</p>
<p><b>Results</b></p>	<p>Ammonium-bearing (NH<sub>4</sub>-rich) white micas are recognized locally in the Animikie drill core, but are not a major component. Distribution is irregular, and occurrences are noted in quartz-breccia zones, metasedimentary units, as well as Fe-rich banded sediments. Additional sampling could help clarify the relationship to potential mineralization and/or lithological domains. White micas in general have a relatively narrow range of compositions (based on 2200nm wavelength positions) from Al-rich and Al-poor micas, but negligible Na- and/or Fe-components. Chlorite compositions on average (based on 2250nm wavelength positions) are close to Fe end-member values.</p>

References:

Canet C., Hernández-Cruz B., Jiménez-Franco A., Pi T., Peláez B., Villanueva-Estrada R.E., Alfonso P., González-Partida E., Salinas S., 2015. Combining ammonium mapping and short-wave infrared (SWIR) reflectance spectroscopy to constrain a model of hydrothermal alteration for the Acoculco geothermal zone, Eastern Mexico. *Geothermics* 53:154-65.