

SOLID EARTH SEMINARS

HYPERSENSPECTRAL IMAGING OF THE MIDDLE MCMURRAY FORMATION: AN AID IN FACIES ANALYSIS



WHAT'S THIS
ABOUT?

ZOOM



Short-wave infrared (SWIR) hyperspectral imagery enhances the visibility of physical and biological sedimentary structures and allows to “see through bitumen”, especially within coarse-grained sediments saturated with heavy oil. One well encompassing the middle McMurray Formation (Kearl Oil Sands area), AB, Canada, has been analyzed to ascertain the usefulness of the technique, make new observations, support previously made environmental interpretations, and, in some cases, change the paleoenvironmental interpretations. The SWIR hyperspectral imagery can substantially refine interpretations that are solely based on visual analysis of the core. Previous visual core analysis proposed the inner to middle estuary depositional locale for the middle McMurray Formation. However, the expanded ichnological and sedimentological dataset provided by the hyperspectral imagery strongly suggests a persistently brackish-water, tidally influenced environment that is most consistent with sedimentation in the middle to the outer estuary.

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Wednesday: 13:00

PASS: RG234_2021

<https://videoconf-colibri.zoom.us/j/89018419156>