

Darijani M, Farquharson CG, 2016, Synthetic modeling and joint inversion of gravity and seismic refraction data for overburden stripping in the Athabasca basin, Canada, Abstract, Soc Econ Geophys, Dallas, TX

Gravity signatures from components of the footprints of uranium deposits in the Athabasca Basin of Canada are masked by the contribution to the measured gravity fields resulting from glacial sediments (overburden), in particular by the variable thickness of these sediments. In this research, 2D joint inversion of seismic refraction and gravity data is assessed as a means of reliably mapping overburden thickness, enabling density anomalies from deeper mineralization and alteration to be reconstructed through gravity inversion. Results show that the seismic refraction data provides an accurate estimation of the base of the overburden in the joint Earth model, which in turn leads to an accurate density distribution in the same model.

NSERC-CMIC Mineral Exploration Footprints Project Contribution 098.