

Gravity, salt and gas

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The low density evaporite (salt) deposits in the Shubenacadie-Stewiacke Carboniferous sedimentary basin are being assessed for their natural gas underground storage potential. Gravity measurements may be used to define the resulting negative gravity anomalies and produce preliminary geological models. More than seventeen hundred gravity stations from ten different surveys spanning forty-three years have been combined for this study. About two thirds of these are from older surveys (1955-1981) most of which were replotted and reprocessed to modern standards. The remainder are from a 1998 survey which was designed to infill areas of

sparse older data coverage.

The resulting Bouguer gravity contour map has defined a northeast to east-northeast trending, linear, negative gravity anomaly with an amplitude of about 20 mGal. The anomaly width is about 14 km and is the result of the lower density Carboniferous Horton Group sediments and Cambro-Ordovician Meguma Group metasediments. Boreholes in the area have intersected salt within the Windsor Group sedimentary basin. A preliminary, geological cross-sectional model has been produced utilizing the gravity and available geological data.