

The Scott Inlet-Buchan Gulf Oil Seeps: Actively Venting Petroleum Systems on the Northern Baffin Margin Offshore Nunavut, Canada

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Abstract

New analyses of legacy geophysical, geological and geochemical data have been integrated with modern multibeam bathymetry, RADARSAT imagery, and onshore geological mapping into a regional study of the petroleum system on the northern Baffin shelf offshore Nunavut. Industry seismic reflection profiles show that the Scott Inlet Graben is the southern end of an elongated basin (200-300 km by 25-50 km wide) extending to the northwest along the Baffin Margin – now named Scott Inlet Basin – which contains up to 6 km of Mesozoic and Cenozoic strata. The seismic data define the outer edge of the Scott Inlet Basin; however, the landward edge is largely unknown and may locally outcrop onshore.