



Natural Resources
Canada

Ressources naturelles
Canada

July 24, 2020

Nunavut Impact Review Board
29 Mitik Street
P.O. Box 1360
Cambridge Bay,
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Via email to: info@nirb.ca

Re: Strategic Environmental Assessment in Baffin Bay and Davis Strait

Good day,

As requested, Natural Resources Canada (NRCan) is providing an overview of some of the work being undertaken related to the Strategic Environmental Assessment in Baffin Bay and Davis Strait.

Please find attached a summary table that links NRCan research to specific recommendations. This work should complement the excellent review provided earlier this month by Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC).

Regards,

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Bureau du Scientifique Principal - Office of the Chief Scientist
Ressources naturelles Canada - Natural Resources Canada
Gouvernement du Canada - Government of Canada

Annexe 1. Overview of NRCan research associated to NRB SEA recommendations

No.	Report Sections	Topic	Key Themes	Board Recommendation	Overview of NRCan works related to the NIRB SEA recommendations
22.	5.1 Physical Environment	Bathymetry	Gaps and Uncertainty	Conduct additional bathymetry research to identify navigational hazards in the Area of Focus and to improve the safety of shipping in the region.	The Geological Survey of Canada (GSC) is currently mapping extensive areas of the seafloor. The hydrographic maps produced by GSC are primarily used to identify marine geohazards on the seafloor, which can be used for the identification of navigational hazards and, ultimately, increase the safety of shipping in the region. This research is also contributing to recommendation no. 42 (see below).
23.	5.1 Physical Environment	Naturally Occurring Seeps	Gaps and Uncertainty	Conduct research to: -identify naturally occurring oil and gas seep locations in the Area of Focus; and -determine flow rates and other relevant Characteristics.	The GSC is assessing the activity of natural oil seeps through the analysis of multibeam bathymetry and sediment samples; and establishing the recurrence of earthquakes in the Baffin region through the dating of submarine landslides from collected sediment cores.
42.	5.1 Physical Environment	Geology	Gaps and Uncertainty	Conduct research, in consultation with industry leaders in petroleum exploration and production and other Arctic regions with oil and gas developments, to improve understanding of geohazards in the Area of Focus (e.g., glacial feature distribution, ice scour analyses, and seabed	The GSC has completed a synthesis of Arctic Petroleum Basins. This synthesis includes evaluating previously completed and published assessments and reports to determine methodology, areal limits, assumptions and data coverage; compiling information on regional geology, petroleum systems and data coverage in areas not covered by previous resource studies; converting all previous work to standard geographic reference framework, nomenclature, and reporting of resource type; evaluating resource potential based on existing studies where available, and analogue/probabilistic

				<p>and underwater slope stability assessments) and geotechnical properties of marine sediment relevant to exploratory drilling and placement of structures on the seabed.</p>	<p>methods for areas with less data availability; and preparing a report of predicted resource potential.</p> <p>The GSC is also refining estimates of the recurrence of submarine landslides and tsunamis linked to past earthquakes in eastern Baffin Island. Specifically, the GSC is mapping the distribution of submarine landslides using all available datasets; assessing the stability of slopes near Pond Inlet, Qikiqtarjuaq and Pangnirtung and the recurrence of landslides and earthquakes offshore these communities based on the analysis of legacy and newly-collected sediment cores; monitoring active geohazards in selected key sites through repeat multibeam bathymetric surveys and the deployment of current profiler moorings; and collecting sediment cores to establish the first physical record of tsunami deposits in the region.</p>
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