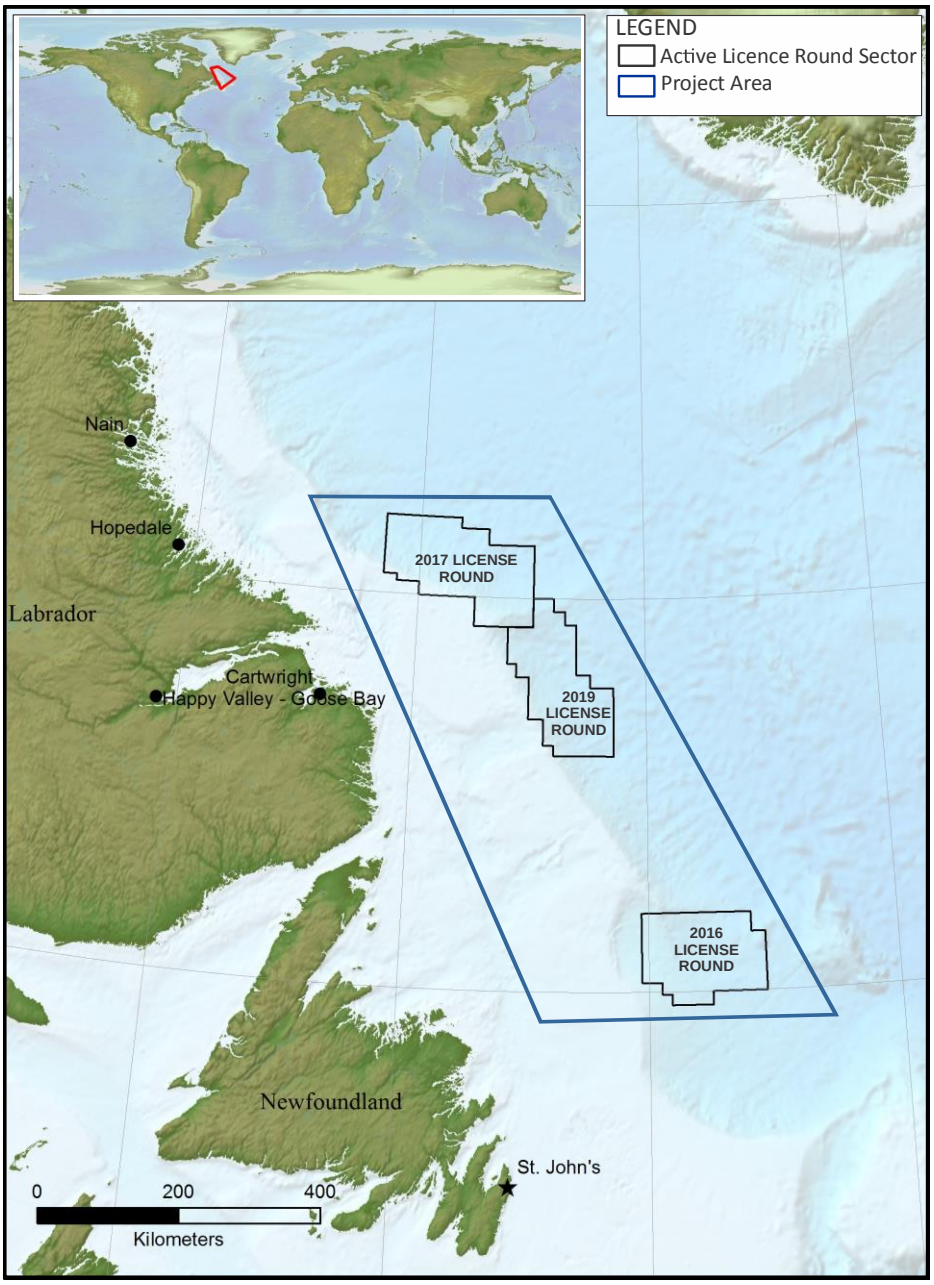
MG3 (Survey) UK Limited and Amplified Geochemical Imaging, LLC, with investment by Nalcor Energy, are carrying out the first phase of a multi-client seabed coring and slicks study covering an area from the central Labrador Sea to the Orphan basin. The project region includes three of the C-NLOPB Area's of Interest in the upcoming 2016, 2017 and 2019 license rounds.

Objectives

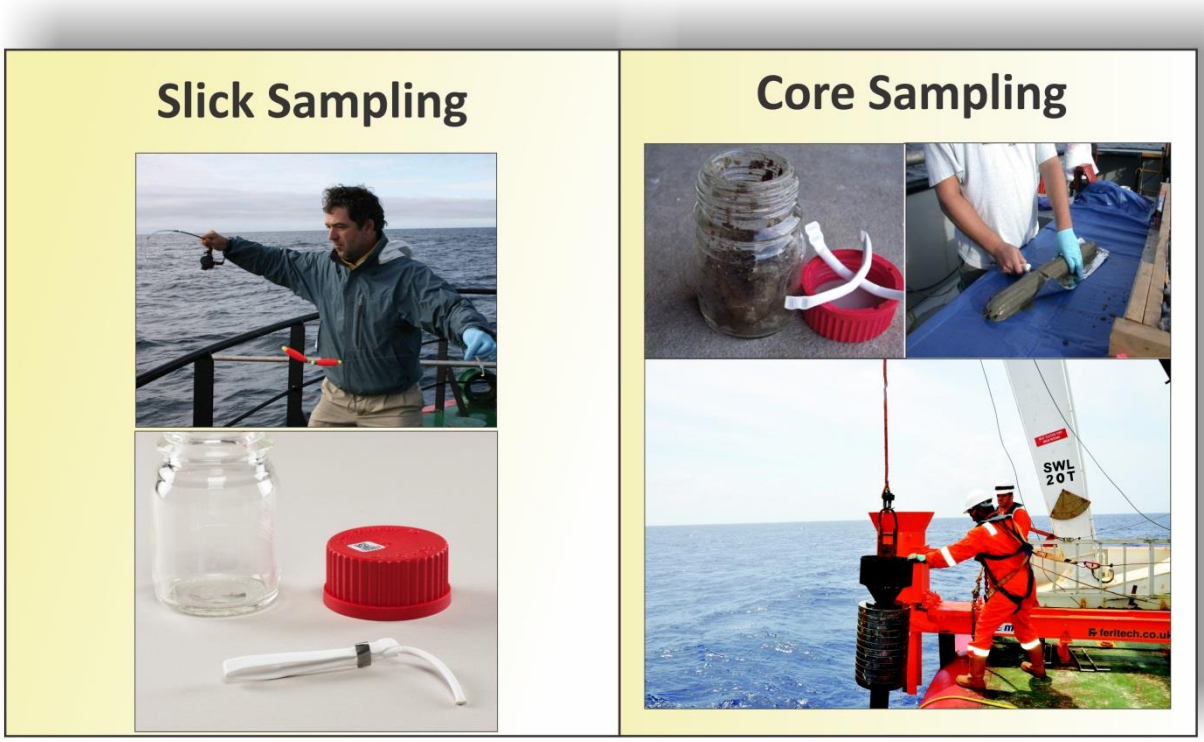
In late 2013 the province of Newfoundland and Labrador announced changes to its offshore land licensing system and moved to a scheduled lease round process. Areas of the offshore never before offered are now available in upcoming license rounds. Understanding the petroleum systems in these regions will be critical for explorationists looking to assess the hydrocarbon potential of the region.

This study will provide new perspective and insight into the working petroleum system supporting both on-going licensing rounds and future exploration.



The key objective of this project is to evaluate working petroleum systems and prospectivity of the area through targeted (multibeam supported) sea bed coring of macroseep and microseep locations and select heat flow measurements over the project area. Analytical results from the program will assist in petroleum system modelling and de-risking source rock potential.

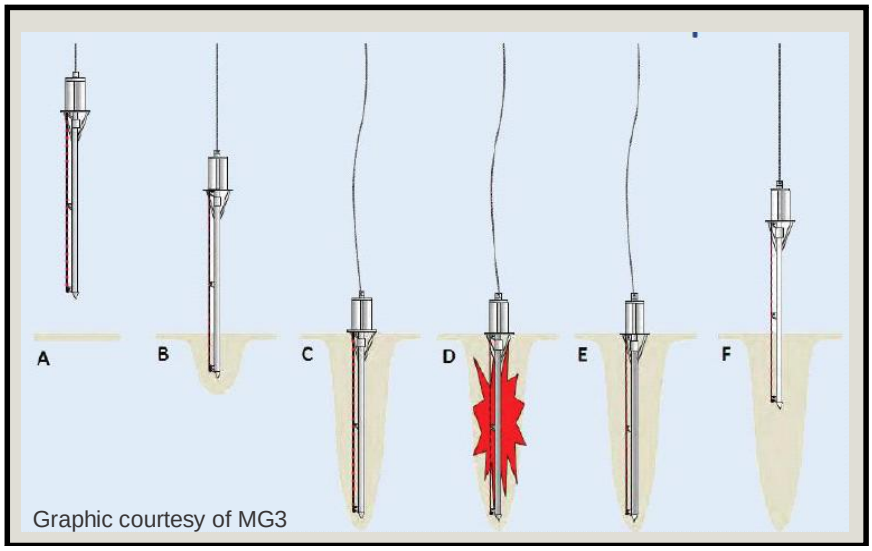
As operator of the project, MG3 are providing the DP survey and coring vessel and performs all field activities (geophysical, multibeam seabed bathymetric mapping, heat flow, coring and sample acquisition). AGI is responsible for the geochemistry including unique specialist analysis as well as conventional geochemical analyses and integrated reporting.



Sampling Program

General sea bed sampling locations were selected via integration of sea surface slicks (courtesy of Airbus Defence and Space) and seismic expressions in the subsurface (courtesy of Nalcor Energy). Multibeam acquisition for bathymetric analysis over the targeted macroseep areas refined the locations and samples were collected at identified sea floor features, such as within suspected pock marks. In addition, microseep samples were collected over select subsurface targets identified on seismic data. All seabed coring was conducted using a gravity corer run with a 6 metre barrel. Sample locations range in bathymetry from shelfal to deep water. Near real time satellite support from Airbus Defence and Space was used, where possible, to identify active seeps in support of surficial slick capturing. These samples were collected using AGI's specialized slick samplers.

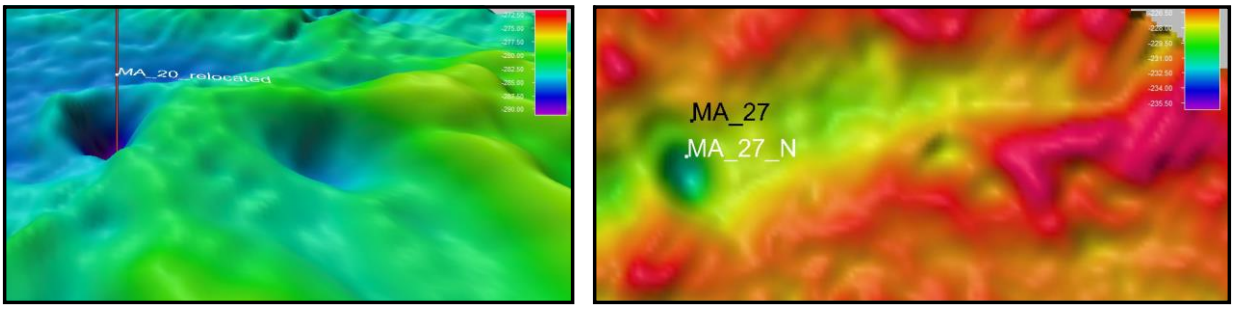
Heat flow measurements consists of a 40 minute cycle of recording temperatures related to thermal decay of frictional heat, followed by thermal decay of a heat pulse generated at the sea bed. The final processed heat flow data will provide temperature, temperature gradient, thermal conductivity, heat flow values, thermal diffusivity and thermal capacity. A number of these measurements will be made at select locations over the entire survey area allowing for accurate regional inputs to petroleum system modelling.



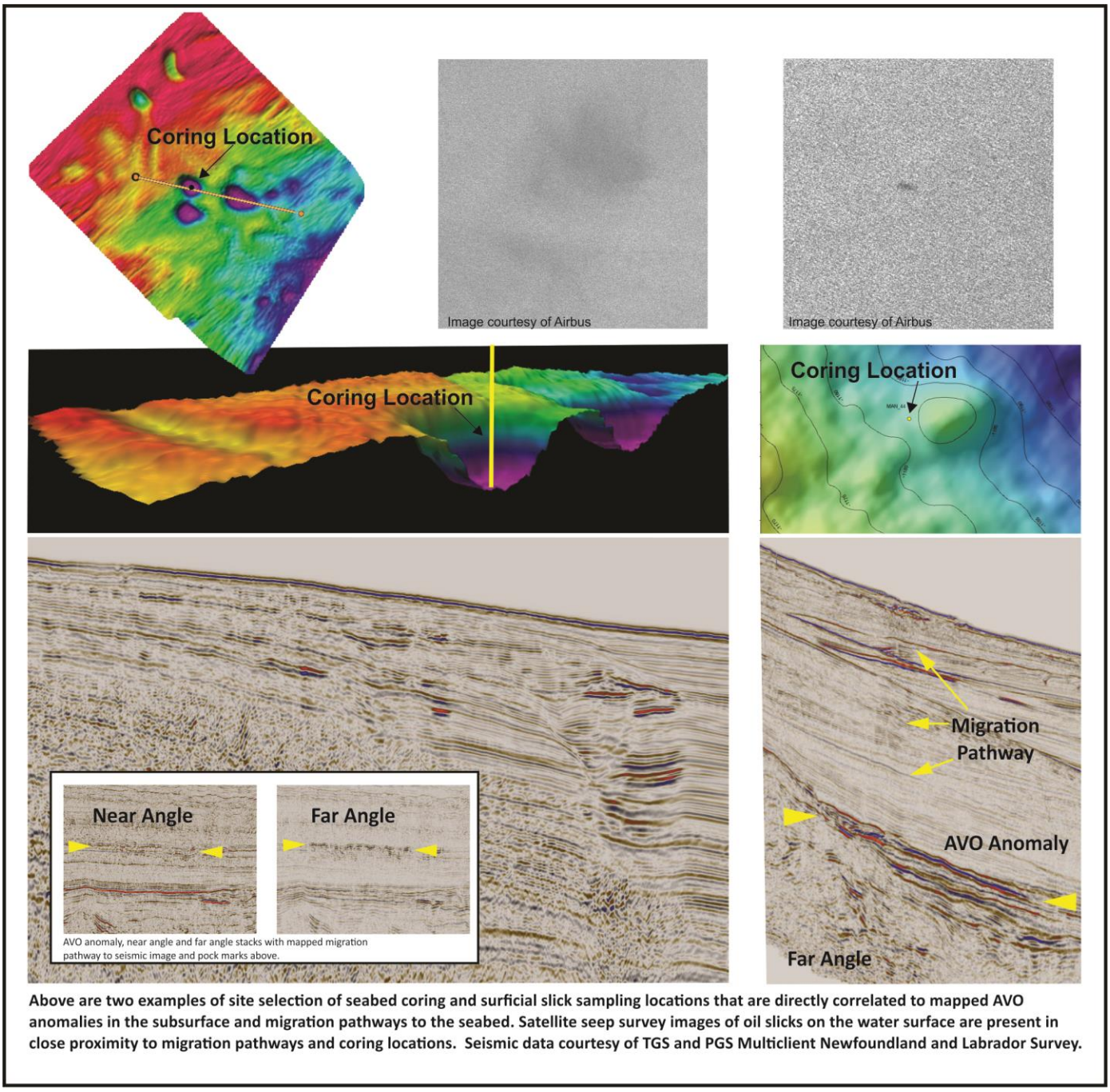
Heat flow probe penetrates seabed (A&B) and records data on station for 20 minutes (C) before generating an artificial heat pulse (D). It then records a second set of data related to the heat pulse (E) before data is collected at surface (F).

Sampling Details

The project area includes three of the C-NLOPB Area's of Interest in the upcoming 2016, 2017 and 2019 license rounds. Around 100 sea floor coring samples, 14 heat flow data points, select multibeam bathymetry transects and 36 surface slick samples have been acquired over these regions.



For each identified area, MG3 conduct a detailed seabed mapping survey using multibeam, water column imaging, backscatter and sub bottom profiling. The data is then processed on-board in near real time to identify anomalous / macroseepage locations for core sampling. Core samples are then taken for geochemical analysis.



Above are two examples of site selection of seabed coring and surficial slick sampling locations that are directly correlated to mapped AVO anomalies in the subsurface and migration pathways to the seabed. Satellite seep survey images of oil slicks on the water surface are present in close proximity to migration pathways and coring locations. Seismic data courtesy of TGS and PGS Multiclient Newfoundland and Labrador Survey.

Schedule

The sampling portion of the project was completed September 28th, 2015. **Final geochemical analysis results are expected in late 2015.**

Deliverables

Geochemical reporting will include AGI analysis of all cores to identify hydrocarbons present in the C2-C20 range (and reported in nanograms) and to screen samples for additional isotope and biomarker analysis. Additional standard geochemical analysis will be conducted as well as AGI slick sampling analysis.

Results to Include...

- Compositional data along with total ion chromatogram plots
- Differentiation between positive and negative areas for hydrocarbon presence
- Statistical analyses as appropriate
- Slick sampling results and correlation to macroseep samples
- Conventional geochemistry results for TOC/TC, headspace gas, isotope and liquid
- Hydrocarbons and biomarker analysis
- Heat Flow data
- Multibeam Bathymetric profiles
- Final comprehensive report

This multi-client study will be available via ***MG3*** or ***AGI*** in late 2015.