

**CANADA-NEWFOUNDLAND and LABRADOR OFFSHORE
PETROLEUM BOARD
DETERMINATION REPORT**

PART A: GENERAL INFORMATION

Screening Date	August 22, 2014
EA Title	Seafloor and Seep Sampling Program - Labrador Offshore to Jeanne d'Arc Basin (2014-2019)
Proponent	TGS Canada Ltd. (TGS) 2100, 250-5 th Street SW Calgary, Alberta T2P 0R4
Contact	Mr. Troy Nelson Senior Regulatory and Compliance Specialist TGS Canada Ltd. (TGS) 2100, 250-5 th Street SW Calgary, Alberta T2P 0R4
C-NLOPB File No.	41006-020-001
Location	Offshore Labrador and Northeast Newfoundland
Referral Date	February 4, 2014
EA Start Date	February 12, 2014
Law List Triggers	Paragraph 138(1) (b) <i>Canada-Newfoundland Atlantic Accord Implementation Act</i> (Accord Act)

Part B: PROJECT INFORMATION

On February 4, 2014, TGS Canada Ltd. (TGS) submitted a project description entitled, *Offshore Labrador Seafloor and Seep Sampling Program 2014-2019* (Aivek Stantec Limited Partnership 2014a) to the Canada-Newfoundland and Labrador Offshore Petroleum Board (C-NLOPB), describing its plans to conduct seafloor and seep sampling exploration activities offshore Newfoundland and Labrador in the Labrador Sea between 2014 and 2019. TGS submitted the *Seafloor and Seep Sampling Program – Labrador Offshore to Jeanne d'Arc Basin (2014 to 2019)* (Aivek Stantec Limited Partnership 2014b) on April 4, 2014. On May 28, 2014, the C-NLOPB requested additional information from TGS to respond to review comments on the April 4 submission. On July 3, 2014, TGS responded to the review comments, via the *Seafloor and Seep Sampling Program – Labrador Offshore to Jeanne d'Arc Basin (2014 to 2019) - Environmental Assessment Addendum* (Aivek Stantec Limited Partnership 2014c). On August 7, 2014, TGS provided information on the aerial surveillance system (OceanEye®) to be included in the scope of the seafloor and seep sampling program.

1 Description of Project

The proposed Project is a multi-year program (2014 to 2019) to be conducted offshore Labrador and northeast Newfoundland and includes the following research activities: sampling of natural seafloor seeps, conducting seafloor heat flow measurements, collection of sediment cores, collection of rocks from outcrops, high-resolution bathymetry, sub-bottom profiles, collection of metocean data (specifically, basic conductivity, temperature and depth (CTD) data), and aerial surveillance. The proposed program will use a conventional research vessel with dynamic positioning capabilities.

2 Description of Environment

A complete description of the biological and physical environment can be found in the Environmental Assessment (EA) report (April 2014) and the subsequent EA Addendum (July 2014). The following sections provide references to the appropriate sections of the EA Report and Addendum.

2.1 Physical Environment

Information on the physical environment may be found in Section 3.1 of the EA Report (Aivek Stantec Limited Partnership 2014b) and EA Addendum (Aivek Stantec Limited Partnership 2014c). Specifically, information was provided on: bathymetry and geology; geology; climatology; physical oceanography; and ice conditions.

2.2 Biological Environment

A detailed description of the biological environment may be found in the EA Report (Aivek Stantec, 2014b) and EA Addendum (Aivek Stantec 2014c). Specifically, information on: fish and fish habitat; fisheries including, traditional, Aboriginal, recreational and aquaculture; Fisheries and Oceans Canada (DFO) research vessel surveys; industry and DFO science; seabirds and migratory birds; marine mammals and sea turtles; sensitive areas; and species at risk.

There are 13 Species at Risk, as defined under Schedule 1 of the *Species at Risk Act* (SARA) that are likely to be within the Study Area. The following table identifies species likely to be present and their SARA listing and the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) status.

SPECIES	SARA Status	COSEWIC Status
Blue Whale (<i>Balenoptera musculus</i>)	Schedule 1 – Endangered (May 2012)	Endangered (May 2012)
North Atlantic Right Whale (<i>Eubalaena glacialis</i>)	Schedule 1 – Endangered (November 2013)	Endangered (November 2013)
Leatherback Sea Turtle (<i>Dermochelys coriacea</i>)	Schedule 1 – Endangered (May 2012)	Endangered (May 2012)
Ivory Gull (<i>Pagophilia eburnea</i>)	Schedule 1 – Endangered (April 2006)	Endangered (April 2006)
White shark (<i>Carcharodon carcharias</i>) Atlantic population	Schedule 1 – Endangered (April 2006)	Endangered (April 2006)
Northern Wolffish (<i>Anarhichas denticulatis</i>)	Schedule 1 – Threatened (November 2012)	Threatened (November 2012)
Spotted Wolffish (<i>Anarhichas minor</i>)	Schedule 1 – Threatened (November 2012)	Threatened (November 2012)
Atlantic Wolffish (<i>Anarhichas lupus</i>)	Schedule 1 – Special Concern (November 2012)	Special Concern (November 2012)
Fin Whale (<i>Balaenoptera physalus</i>) Atlantic population	Schedule 1 – Special Concern (May 2005)	Special Concern (May 2005)

Sowerby's beaked whale (<i>Mesoplodon bidens</i>)	Schedule 1 – Special Concern (November 2006)	Special Concern (November 2006)
Polar bear (<i>Ursus maritimus</i>)	Schedule 1 – Special Concern (April 2008)	Special Concern (April 2008)
Harlequin Duck (<i>Histrionicus histrionicus</i>)	Schedule 1 – Special Concern (November 2013)	Special Concern (November 2013)
Barrow's Goldeneye (<i>Bucephala islandica</i>)	Schedule 1 – Special Concern (May 2011)	Special Concern (May 2011)

Part C: ENVIRONMENTAL ASSESSMENT PROCESS

3. Review Process

On February 4, 2014, TGS-NOPEC Geophysical Company ASA (name changed in July 2014 to TGS Canada Ltd. (TGS)) submitted a project description entitled, *Offshore Labrador Seafloor and Seep Sampling Program 2014-2019* (Aivek Stantec Limited Partnership 2014a) to the Canada-Newfoundland and Labrador Offshore Petroleum Board (C-NLOPB), describing its plans to conduct seafloor and seep sampling exploration activities offshore Newfoundland and Labrador in the Labrador Sea between 2014 and 2019. The Project requires an authorization pursuant to Section 138(1) (b) of the *Canada-Newfoundland Atlantic Accord Implementation Act* and Section 134(1) (a) of the *Canada-Newfoundland and Labrador Atlantic Accord Implementation Newfoundland and Labrador Act (Accord Acts)*. The C-NLOPB requested comments on the project description and identification of expertise on February 12, 2014 to: DFO; Environment Canada (EC); Department of National Defence (DND); Transport Canada (TC); Natural Resources Canada (NRCan); Health Canada; Nunatsiavut Government (NG); and the Newfoundland and Labrador Departments of Environment and Conservation (NLDEOC), Fisheries and Aquaculture (NL DFA) and Natural Resources (NL DNR). The C-NLOPB requested comments on the project description from One Ocean (OO) and the Fish, Food and Allied Workers Union (FFAW).

On March 4, 2014, the C-NLOPB notified TGS that an EA was required and the Scoping Document was provided.

TGS submitted the *Seafloor and Seep Sampling Program – Labrador Offshore to Jeanne d'Arc Basin (2014 to 2019)* (Aivek Stantec Limited 2014b) on April 4, 2014. The C-NLOPB forwarded the EA Report on February 19, 2014 to DFO, EC, DND, NG, NL DEOC, NL DFA AND NL DNR. The FFAW and OO were also provided a copy of the EA Report for review.

Comments on the EA Report were received from EC, DND, NG, DFO and the FFAW. In order to address deficiencies in the EA Report, TGS was required to provide a response to the EA Report comments. On July 3, 2014, TGS responded to the review comments, via the *Seafloor and Seep Sampling Program – Labrador Offshore to Jeanne d'Arc Basin (2014 to 2019) - Environmental Assessment Addendum* (Aivek Stantec Limited Partnership 2014c) and this was forwarded to reviewers for their consideration. Additional comments were provided from reviewers and these were forwarded to TGS on July 25, 2014. On August 7, 2014, TGS provided information on the aerial surveillance system (OceanEye®) to be included in the scope of the seafloor and seep sampling program. This information was provided to reviewers for their consideration. All comments were addressed satisfactorily and a revised EA Addendum for administrative purposes was provided by TGS on August 15, 2014.

3.1 Scope of Project

TGS is proposing to collect the following data:

- sampling of potential natural seafloor seeps (by collecting water samples);
- conducting seafloor heat flow measurements using a thermal probe for sediment core locations;

- collection of sediment cores using a gravity core method;
- collection of rocks from outcrops;
- multi-beam bathymetry;
- sub-bottom profiling; and
- metocean data.

TGS will not be collecting metocean data in 2014. Any combination of the above listed data could be collected in 2015 to 2019; based on the results of the proposed 2014 program.

The data will be collected using a research vessel with dynamic positioning capabilities. The vessel will also be required to be able to deploy and retrieve the various sampling equipment proposed as part of the geochemical data acquisition program.

Samples to detect the presence of oil from natural seafloor seeps will be collected with an AGI (GORE) or similar sampling kit. The sampler is hydrophobic (i.e., repels water) and can collect hydrocarbons from very thin oil layers in the water. The deployment / retrieval mechanism is similar to a fishing rod (folding casting device, weighted bobbers and fishing line and hardware). Heat flow measurements will be taken using a thermal probe mounted to the exterior of a gravity core barrel. A multi-beam echosounder (MBE) will be used to collect data to provide high-resolution bathymetry. The MBE will be mounted to the hull of the research vessel and will operate at approximately 30 kHz. The sub-bottom profiler (SBP) can collect images between 5 to 40 m of sediments below the seafloor. A SBP is typically mounted on the hull of the vessel or side-mounted on a retractable post. Sediment cores will be collected, up to 300 locations, to a depth of 3 m using a gravity corer. The gravity corer is deployed on a single steel lifting cable from a trawl winch. Penetration is achieved by allowing the unit to free fall the last 5 m to the seabed. A towed dredge will be used to collect rock samples from outcrops on the seafloor. TGS propose to implement the OceanEye® Aerial Surveillance System to assist in locating active natural seafloor seeps on the ocean’s surface. Prior to collecting seep samples using the AGI sampling kits, a weather-proof, helium-filled balloon carrying a triple-sensor unit will be deployed from a base unit off the stern of the survey vessel to an approximate height of 100 to 150 metres above the ocean surface. Tethered by a heavy duty cable, the system will operate while the vessel is transiting to and within the identified potential seep areas, collecting and producing high resolution day and night (EO/IR) imagery and geo-location coordinates. The balloon’s sensor unit locates the petroleum seep and transmits data wirelessly to the base unit on the vessel.

The program will occur in the open water / ice-free season July to October, inclusion between 2014 and 2019. The estimated duration of the proposed program is 30 to 45 days in any given year.

3.2 Boundaries

The boundaries of the Project/Study/Affected are defined in the EA Report as follows and are acceptable to the C-NLOPB.

Boundary	Description
<i>Temporal</i>	July to October, inclusive 2014 to 2019.
<i>Project/Study/Affected Area</i>	Offshore Labrador and Northeast Newfoundland with the “corner” coordinates (NAD 83 UTM Zone 21N): 587987.14 6649038.40; 626589.23 6597249.65; 638196.37 6586312.76; 646477.50 6569780.67;

685001.63	6517916.11;
734490.55	6471401.94;
788416.85	6435770.28;
849378.62	6409272.61;
912301.98	6394139.93;
960011.56	6384317.85;
992109.06	6367548.87;
1051448.85	6341478.47;
1114450.36	6326050.97;
1127330.69	6325196.57;
1284159.79	6239991.24;
1333329.65	5960216.31;
1544419.66	5614755.77;
1792294.98	5389834.99;
1601333.72	5104857.23;
1027070.68	5054885.89;
888723.39	5340473.26;
813083.06	5519005.21;
640134.95	5674253.38;
620386.73	5852634.51;
600421.00	5947693.91;
561015.42	6055933.90;
521685.29	6089044.71;
388838.96	6168713.20;
321921.78	6252298.55;
273586.40	6387096.12;
250243.07	6444606.48;
203592.52	6503310.31;
159001.68	6648200.19;
143673.30	6751680.31;
322477.08	6815599.89;
546154.16	6719631.03; and
568303.57	6680908.34

3.3 Scope of Assessment

For the purpose of meeting the requirements of the *Accord Acts*, the factors that were considered to be within the scope of the environmental assessment are those set out in the *TGS-NOPEC Geophysical Company ASA Offshore Labrador Seafloor and Seep Sampling Program, 2014 to 2019 Scoping Document* (C-NLOPB 2014).

4. Consultation

4.1 Consultation carried out by TGS

TGS met with the FFAW and OO in St. John’s on February 5, 2014 and provided details on the activities and discussions centred on timing and the flexibility of the Project to accommodate crab fishing seasons, especially in NAFO Division 3K. TGS committed to a Fisheries Liaison Officer (FLO) during the survey.

TGS contacted the NG on January 19, 2014 to establish a time to meet. A meeting was held with the NG on May 7 and TGS provided information on the program and clarification on specific questions about the program. Key points included an observation from the NG on ice concentration off the coast of Labrador

and interest in providing possible services or employment. TGS indicated they would offer an observer liaison position to Nunatsiavut for the program (including the necessary training). TGS committed to adjusting their schedule to avoid possible conflict with fishing vessels (e.g. the potential for delays in the crab season in Zone 2J). TGS will also return to Nain at the conclusion of the 2014 program to report on results and the status. A public information session was held the same evening.

Issues raised during the consultation process include the following:

- inclusion of Project components and the NAFO Divisions on the fisheries maps.
- use of daily VMS (vessel movement system) data for identifying fishing vessel positions.
- flexibility in the description of activities to ensure all aspects are assessed.

The C-NLOPB is satisfied that the consultations carried out by TGS, and reported on in the EA Report, included all elements of the Project, and that TGS has addressed substantive concerns about the proposed Project.

4.2 Review of the April 2014 EA Report

The C-NLOPB forwarded the EA Report on April 9, 2014 to DFO, EC, DND, NG, NLDEC, NL DFA and NLDNR. The FFAW and OO also were provided a copy of the EA Report for review.

DFO provided comments on the EA Report on 23 May 2014. They determined that the project would not cause serious harm to fish and/or fish habitat.

EC provided comments on the EA Report on 07 May 2014. The key issues were: proper data numbers and concentrations of seabirds; clarification of recovery strategies and permits; effects of light; and submission of bird observation data. They reiterated that their comments on the draft scoping document (February 23, 2014) were still valid. EC provided a response on the EA Addendum on 21 July 2014 that they recommended migratory bird monitoring. On August 12, 2014 TGS replied that it would collect migratory bird data which was satisfactory to EC provided the proper protocols that had been provided on February 23, 2014, were followed.

DND provided comments on the EA Report on 07 May, 2014 which stated that information on unexploded ordnates in the Project Area should be included and that they would likely be in the area in a non-interference manner and requesting that they be informed of dates and locations of proposed activities. On July 10, 2014 DND replied that TGS's response in the EA Addendum was satisfactory.

The NG provided comments on the EA Report on 12 May 2014. Their comments included: impact of the sub-bottom profiler; the hiring of Inuit observers; adaptive management; an annual report submitted by January 31 of the following year on the benefits and impacts of the program; and continued communication and consultation. The NG provided comments on the EA Addendum on 15 July 2014 reiterating its position on the use of an MMO. On August 12, 2014 TGS replied that it would have an MMO onboard. The NG provided a further response on August 22, 2014 indicating that the MMO on board should have the ability to mitigate potential negative impacts on marine mammals (i.e. a shut down of the SBP if marine mammals are observed within 500 m of the vessel).

The FFAW provided comments on the EA Report on 27 May 2014. The key issues were: clarification of the potential impacts of sediment coring and rock sampling; compensation from accidental events; and clarification of the DFO Post Season Trap Survey for Snow Crab. The FFAW commented on July 11, 2014 on the EA Addendum that they were satisfied with the response.

The consolidated review comments were provided to TGS on May 28, 2014. TGS responded on July 3, 2014 in the form of an EA Addendum. TGS's July 3, 2014 response was forwarded to reviewers on July 4, 2014 for consideration. Additional comments were sent to TGS on July 25 and August 22, 2014. TGS replied on August 12 and August 15, 2014. For administrative purposes, all review comments and responses were consolidated by TGS and included in a revised EA Addendum on August 15, 2014.

On August 7, 2014 TGS proposed changes to their project. These changes involved the addition of an aerial surveillance system called OceanEye® to the operational scope of the Seafloor and Seep Sampling program. This activity will assist in real-time detection of natural petroleum seeps and slicks on the ocean surface. This was forwarded to government departments and agencies, including Transport Canada (TC), for their information. On August 19, 2014 TC replied that it had determined that the noted balloon survey operation is not subject to the marking and lighting requirements under the *Civil Aviation Regulations*.

The C-NLOPB believes that all substantive comments within the scope of the EA have been satisfactorily addressed.

5. Environmental Effects Analysis

5.1 Methodology

The C-NLOPB reviewed the environmental effects analysis presented by TGS in its EA Report and Addendum. A Valued Ecosystem Component (VEC) based assessment, based on the interaction of project activities with VECs, was used in assessing environmental effects, including cumulative effects and effects due to accidental events. The environmental assessment methodology and approach used by the Proponent is acceptable to the C-NLOPB.

Potential adverse environmental effects, including cumulative effects, were assessed with respect to:

- magnitude of impact;
- geographic extent;
- duration, likelihood, and frequency;
- reversibility;
- ecological, socio-cultural and economic context; and
- significance of residual effects following implementation of mitigation measures.

The potential effect significance of residual effects, including cumulative effects, for each VEC was rated in this environmental screening report as follows:

0 = No Detectable Adverse Effect

1 = Detectable Effect, Not Significant

2 = Detectable Effect, Significant

3 = Detectable Effect, Unknown

These ratings, along with the likelihood of the effect, were considered in determining overall significance of residual effects.

In the EA Report and Addendum, TGS presented information regarding the potential effects of the seafloor and seep sampling program activities on fish and fish habitat, commercial fisheries, seabirds, marine mammals and sea turtles, species at risk, and sensitive areas. A summary of the effects assessment follows.

5.2 Valued Ecosystem Components/ Potential Environmental Effects

5.2.1 Fish and Fish Habitat

0

The magnitude of environmental effects resulting from Project activities is negligible based on the frequency of occurrence of one sample collected at separate locations within a short duration (i.e., three to four weeks). Given the limited interaction of the Project activities, the environmental effects of the proposed activities are predicted to be negligible and therefore **not significant**.

5.2.2 Commercial and Traditional Fisheries and DFO Research Surveys

1

The magnitude of environmental effects resulting from Project activities is negligible based on the frequency of occurrence of one sample collected at distinct separate locations within a short duration (i.e., three to four weeks). Given the limited interaction of the Project activities and the application of mitigation measures such as a FLO onboard, the environmental effects of the proposed activities are predicted to **be not significant**.

5.2.3 Marine Birds

0

The magnitude of environmental effects resulting from Project activities is negligible based on the frequency of occurrence of one sample collected at distinct separate locations within a short duration (i.e., three to four weeks). Given the limited interaction of the Project activities with migratory seabirds and the commitment by TGS to maintain a minimum distance of 2 km from active seabird colonies, the environmental effects of the proposed activities are predicted to **be not significant**.

5.2.4 Marine Mammals and Sea Turtles

0

The magnitude of environmental effects resulting from Project activities is negligible based on the frequency of occurrence of one sample collected at distinct separate locations within a short duration (i.e., three to four weeks). Given the limited interaction of the Project activities with marine mammals and sea turtles and the application of mitigation measures such as a MMO, the environmental effects of the proposed activities are predicted to **be not significant**.

5.2.5 Species at Risk

1

The magnitude of environmental effects resulting from Project activities on species at risk is negligible based on the frequency of occurrence of one sample collected at distinct separate locations within a short duration (i.e., three to four weeks).

Based on the timing of the survey (i.e. summer), the unlikely occurrence of the Ivory Gull, Harlequin Duck, and Barrow's Goldeneye in the Project Area, and mitigation measures such as a seabird observer and routine checks for stranded birds and release as per the protocol of Williams and Chardine (1999), the environmental effects of the proposed activities on seabird species at risk are predicted to **be not significant**.

Based on available information and given the limited interaction of the Project activities on marine mammal and marine fish species at risk, the environmental effects of the proposed activities are predicted to **be not significant**.

5.2.6 Sensitive Areas

0

Based on the previous conclusions on the effects of the project on the other VECs, and the limited scope of the project, the environmental effects of the proposed activities are predicted to negligible and therefore **not significant**.

5.2.7 Water Quality/Discharges

0

Vessel discharges will not exceed those of standard vessel operations. The effect of the proposed program on marine water quality should be undetectable and **not significant**.

5.3 Cumulative Environmental Effects

0

The program will be conducted from a single research vessel, with sampling gear limited to the immediate vicinity of the research vessel (i.e., no streamers). The incremental amount of vessel traffic as a result of the Project will be negligible compared to existing vessel traffic in the area. The Project activities are transitory with limited spatial and temporal overlap with other projects and activities and other oil and gas programs. The research vessel will not enter exclusion zones established around existing production platforms or exploration vessels. With the implementation of mitigative measures, the limited temporal scope, and communication with other programs, the cumulative environmental effect of the program in conjunction with other projects and activities is predicted to be **not significant**.

5.4 Accidents and Malfunctions

In the unlikely event of an accidental release of hydrocarbons, TGS will implement the measures outlined in its oil spill response plan. The research vessel will have limited amounts of marine fuel on board that could potentially be spilled to the ocean and will have spill response equipment on board. The vessel's Safety, Health and Environment management system includes spill response. Data collection will occur in the ice-free season and therefore, in the case of an accidental event, no spilled fuel will become trapped in ice. Given the on-board spill response plan and equipment, the residual environmental effect of an accidental spill is predicted to be **not significant**. Effects due to accidental spills associated with the proposed operation, therefore, are considered, overall, to be detectable if they occur, but **neither significant nor likely**.

5.5 Follow-up Program

Required

Yes

No

The C-NLOPB does not require follow-up monitoring to be undertaken for this Project.

6. Other Considerations

The C-NLOPB is satisfied with the environmental information provided by TGS regarding the potential adverse environmental effects which may result from the proposed project, and are satisfied with the operator's proposed monitoring and mitigative measures.

The C-NLOPB is of the view that the environmental effects from the project, in combination with other projects or activities that have been or will be carried out, are **not likely** to cause significant adverse cumulative environmental effects.

7. Recommended Conditions and /or Mitigations

The C-NLOPB recommends that the following conditions be included in the authorization if the exploration survey program is approved:

- *The Operator shall implement or cause to be implemented, all the policies, practices, recommendations and procedures for the protection of the environment included in or referred to in the Application and in the "Seafloor and Seep Sampling Program – Labrador Offshore to Jeanne d'Arc Basin (2014 to 2019)" (Aivek Stantec Limited Partnership April 4, 2014) and "Seafloor and Seep Sampling Program – Labrador Offshore to Jeanne d'Arc Basin (2014 to 2019) - Environmental Assessment Addendum" (Aivek Stantec Limited Partnership August 15, 2014).*

- *The Operator, or its contractors, shall shut down the Sub-bottom profiler (SBP) if a marine mammal or sea turtle listed as **Endangered or Threatened** (as per Schedule 1 of SARA) is observed in the safety zone when the sound source is active. The safety zone shall have a radius of at least 200 m, as measured from the centre of the sound source.*
- *No later than January 31, 2015, the Operator shall submit a report to the C-NLOPB describing the progress, including potential environmental effects, the implementation of mitigation measures, and Inuit-specific opportunities of its 2014 program. It shall include, but not be limited to, copies of the Fisheries Liaison Officer (FLO), marine mammal observer (MMO), and seabird observer reports that were produced during the program.*

Part D: Determination Decision

8.1 C-NLOPB Decision

*The C-NLOPB is of the opinion that, taking into account the implementation of the proposed mitigation measures set out in the conditions above and those committed to by TGS Canada Ltd., the Project is **not likely to cause significant adverse environmental effects.***

Responsible Officer

Original signed by Elizabeth Young

Date: August 22, 2014

Elizabeth Young

Environmental Assessment Officer

Canada-Newfoundland and Labrador Offshore Petroleum Board

References:

C-NLOPB. 2012. *Geophysical, Geological, Environmental and Geotechnical Program Guidelines*.

C-NLOPB. 2014. *TGS-NOPEC Geophysical Company ASA Offshore Labrador Seafloor and Seep Sampling Program 2014 to 2019* Scoping Document. 11 pp.

Aivek Stantec Limited Partnership. 2014a. *Offshore Labrador Seafloor and Seep Sampling Program 2014-2019*. 12 pp.

Aivek Stantec Limited Partnership. 2014b. *Seafloor and Seep Sampling Program – Labrador Offshore to Jeanne d’Arc Basin (2014 to 2019)*. 47 pp. + App.

Aivek Stantec Limited Partnership. 2014c. *Seafloor and Seep Sampling Program – Labrador Offshore to Jeanne d’Arc Basin (2014 to 2019) - Environmental Assessment Addendum*. 16 pp.