



**ExxonMobil Canada Ltd.  
2022 Eastern Newfoundland Offshore  
Exploration Drilling Project –  
EL 1165A**

**EL 1165A (Hampden) Conditions Closure  
Report Executive Summary**

Submitted by:

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# 1 PROJECT DESCRIPTION

ExxonMobil Canada Ltd. (EMCL) undertook an offshore exploration drilling program at Exploration Licence (EL) 1165A (Hampden K-41) to determine the presence, nature, and quantities of potential hydrocarbon resource. The Hampden well was an undrilled prospect ~400 kilometres east of St. John's, Newfoundland and in 2020 the top-hole was drilled by the Seadrill *West Aquarius* Mobile Offshore Drilling Unit (MODU) and in 2022 the drilling continued using the *Stena Forth* MODU under Operations Authorization (OA) no. 24020-020-OA06 in a water depth of 1,180 metres. See Figure 1: Map of Well Location.

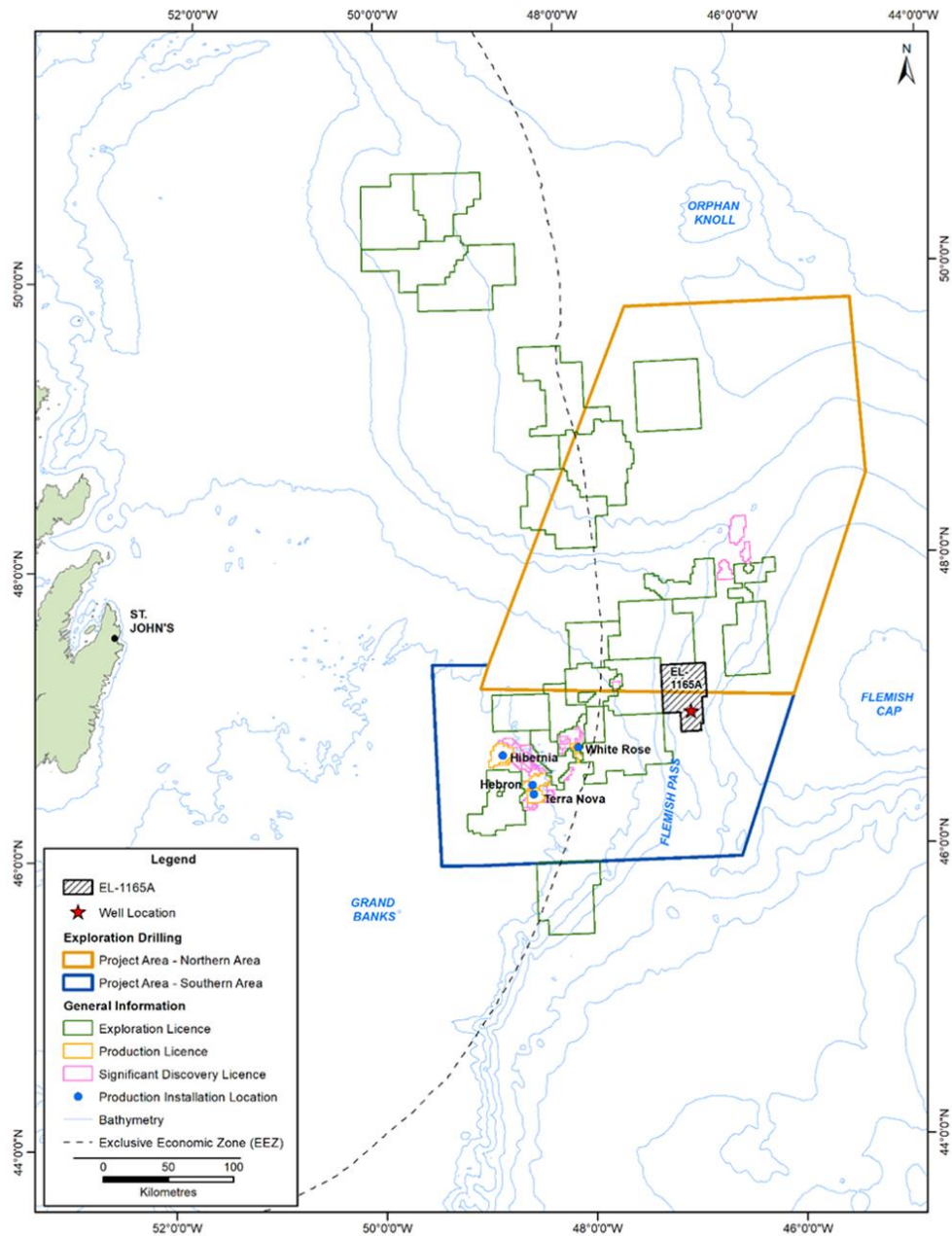


Figure 1: Map of Well Location

In 2016, the Impact Assessment Agency of Canada (IAAC, formerly the Canadian Environmental Assessment Agency (CEAA) – herein referred to as the Agency) conducted an environmental assessment of the Designated Project in accordance with the requirements of the *Canadian Environmental Assessment Act, 2012* and submitted its report to the Minister of Environment and Climate Change. On April 17, 2019, after considering the report of the Agency on the Designated Project and the implementation of mitigation measures, a Decision Statement was released in which the Minister determined that the Designated Project was not likely to cause significant adverse environmental effects referred to in subsection 5(1) of the *Canadian Environmental Assessment Act, 2012*.

As a Condition in the Decision Statement, EMCL was required to submit a close-out report within 90 days of the completion of the well. The 90-Day Closure Report outlines the activities that were undertaken to comply with the conditions outlined in the Decision Statement including:

- Consultations and Communications with Stakeholders
- Fish and Fish Habitat Protection and Monitoring
- Discharge Monitoring
- Marine Mammal and Sea Turtle Monitoring
- Migratory Bird Monitoring
- Additional Mitigations

## 2 COMMUNICATIONS AND CONSULTATION

As part of its on-going and planned operations offshore Eastern Newfoundland, EMCL engaged with key stakeholders that had an interest in offshore oil and gas operations. These engagements took place through consultation sessions and regular communication to keep stakeholders apprised of offshore oil and gas activity in their areas and to address any concerns.

Specific Communications Plans were developed for communicating with Indigenous groups and commercial fishers in consultation with these stakeholders. These plans outlined communications protocols and processes to be used leading up to and during the operational period of the drilling program.

In addition to consultation sessions, EMCL provided monthly e-mail operational updates to fishers and Indigenous groups. Email updates included the following information when applicable to operations:

- Mobilization of the rig
- Rig location (coordinates)
- Safety zone – description, location, and purpose
- Supply and safety vessels / identification / call signs / routes
- Anticipated vessel traffic schedule
- Commencement of exploration drilling (spud)
- Schedule of activities (e.g., blow-out preventer (BOP) installation, Vertical Seismic Profiling (VSP))
- Abandonment of well
- Demobilization / rig movement
- Links to documents and reports: (e.g., Canada-Newfoundland and Labrador Offshore Petroleum Board (C-NLOPB) website, Company websites)
- Company contact
- Updates on the results of environmental monitoring programs related to birds, marine mammals, fish and fish habitat (when available)

Documents, plans, and monitoring reports were posted to the EMCL Exploration website as available including communications plans, wellhead abandonment plan, well control strategies, implementation schedule, and oil response plan.

### 3 FISH AND FISH HABITAT PROTECTION AND MONITORING

To aid the protection of fish and fish habitats in, and around, the exploration drilling area EMCL implemented mitigation measures including;

- Pre-drilling coral and sponge surveys
- Synthetic-based fluid on cuttings
- Drill cuttings monitoring
- Discharge monitoring

Survey and monitoring plans associated with these components were developed prior to conducting the program in consultation with Fisheries and Oceans Canada (DFO) and C-NLOPB.

#### 3.1 Pre-Drilling Coral and Sponge Survey

In preparation for regulatory approval, a survey to evaluate the presence and distribution of corals and sponges was undertaken in 2018. The survey consisted of the collection of high-resolution videos of the seabed at the drill site, using an ROV for the purposes of identifying cold-water corals (CWC) and sponges.

Seabed video transects of the EL1165A survey area revealed the benthic megafaunal community was dominated by sea pens and soft corals, with lower abundances of sponges and other sessile invertebrates. Soft corals observed belonged to the Nephtheidae family, while the main taxa of sea pens observed were from the genera *Anthoptilum* and *Pennatula*. The most commonly observed taxa of sponges were geodid sponges. Other sessile invertebrates included anemones, while sea urchins and sea stars were the predominant mobile invertebrates. C-NLOPB guidelines prohibit drilling activity within 100 metres of a “coral colony”, defined either as a *Desmophyllum pertusum* (formerly *Lophelia pertusa*) reef complex; or 5 or more large corals (larger than 30 centimetres in height or width) within a 100 square metre area (C-NLOPB Remarks to National Advisory Panel on Marine Protected Area Standards). From these pre-drill surveys, it was determined that no *D. pertusum* complexes or coral colonies as defined by the C-NLOPB were observed within the surveyed area at the Hampden K-41 wellsite therefore, drilling proceeded at the site.

#### 3.2 Post-Drilling Coral and Sponge Survey

After the top-hole was drilled at Hampden in 2020, a post-drilling survey took place within a 200 m x 200 m box around the well head. The details of this survey are presented in the 2020 Hampden closure report. In 2022 the Hampden well drilling continued, and another follow-up survey was conducted within the predicted drill cuttings deposition area. The 2022 survey found similar results compared to the pre-drilling survey. Nephtheid soft corals were the most common coral group (and fauna species overall), with lesser numbers of sea pens, branching corals, and hard corals distributed throughout the survey area. Geodid sponges were the most common sponge group, and similar taxa of sessile and mobile invertebrates were observed. Overall, groups had similar or slightly smaller densities compared to the pre-drilling surveys, which is within the Environmental Impact Statement (EIS) predictions.

#### 3.3 Synthetic-Based Fluid on Cuttings Monitoring

EMCL was required to measure the concentration of synthetic-based drilling fluids retained on discharged drill cuttings. The Environmental Compliance Monitoring Plan (ECMP) outlined the monitoring and reporting actions that EMCL put in place to meet this requirement. As outlined in the plan, the synthetic-on-cuttings (SOC) and mass of cuttings drilled and released were collected and recorded.

EMCL had a performance target for SOC discharged to sea based on the Offshore Waste Treatment Guidelines of not exceeding 6.9g/100g oil on wet solid. This target was maintained for the duration of the campaign with 3.35g/100g of wet solids being the highest level reached. EMCL reported the discharged SOC results to the C-NLOPB on a monthly basis.

### 3.4 Drill Cuttings Monitoring

A post-drill survey was conducted at the EL 1165A well location, to visually assess the areal extent of the discharge of muds and cuttings from the exploration program for comparison within the drill cuttings modelling deposition area. During the top-hole drilling at Hampden in 2020, in addition to visual analysis the drill cuttings extent was further quantified and supplemented by depth penetration measurements and sediment cores. The 2022 drilling campaign at Hampden examined only the modelled depositional area south of the well head and used only visual analysis of cuttings.

For the 2022 campaign, the model results were compared to *in situ* results and found that cuttings were within the extent of the model's predictions and were thinly distributed within the modelled depositional area with thicker cuttings still present near the well head location.

### 3.5 Discharge Monitoring

The ECMP identified the waste streams and sampling, analysis and reporting requirements for regulated wastes discharged during routine operation. Discharges included drilling solids, drains system, non-aqueous fluid (NAF) cuttings, bilge water. The requirements outlined in the plan were aligned with the Offshore Waste Treatment Guidelines (OWTG) as set out by the National Energy Board (NEB), the C-NLOPB and the Canada-Nova Scotia Offshore Petroleum Board (CNSOPB). During the exploration program, all chemicals onboard the MODU were managed through the chemical management system. Prior to receipt of the chemicals onboard, it was assessed as part of the EMCL chemical screening process including an environmental review. All supply vessels operating for EMCL were required to follow the requirements outlined in the International Convention for the Prevention of Pollution from Ships (MARPOL). Their adherence to MARPOL requirements was captured within the vessels Safety Management System (SMS) and various procedures.

### 3.6 Underwater Sound Monitoring

An acoustic monitoring program was conducted to further measure baseline sound levels, marine mammal presence and changes to the baseline resulting from the Hampden drilling program. This program took place as part of the original follow-up program at Hampden in 2020, with no further underwater sound monitoring required as part of the 2022 campaign.

## 4 MARINE MAMMAL AND SEA TURTLE MONITORING

A Marine Mammal Monitoring Plan (MMMP) was developed in consultation with DFO and C-NLOPB prior to conducting the program to minimize any risk to marine mammals and sea turtles as a result of exposure to air gun pulses during VSP activity.

The Hampden K-41 Marine Mammal and Sea Turtle Monitoring Plan was accepted by the regulators prior to any VSP activities. This plan included both visual monitoring and real-time passive acoustic monitoring (PAM) during VSP activities aboard the *Stena Forth*. Monitoring activities took place aboard the MV *K.J. Gardner*, which visually and acoustically monitored the 500 m safety zone around the *Stena Forth*. VSP operations occurred from July 31<sup>st</sup>, 2022, to August 1<sup>st</sup>, 2022. During operations, there were four detections of marine mammals, three of which were visual and one of which was acoustic. Two of these sightings required biological shutdowns during the soft start phase of VSP gun operations, and after the mammals left the area operations resumed.

In addition to requirements for monitoring during VSP activities, the MMMP also addressed the requirements for reporting injured, dead or stranded marine mammals or sea turtles. During the program there were no sightings of injured, dead or stranded species.

## 5 MIGRATORY BIRD MONITORING

EMCL developed a Migratory Birds follow-up monitoring program, in consultation with C-NLOPB and Environment and Climate Change Canada-Canadian Wildlife Service (ECCC-CWS), to verify the accuracy of the predictions made during the environmental assessment as it pertains to migratory birds and to determine the effectiveness of the mitigation measures implemented. The Eastern Newfoundland Offshore Exploration Drilling Project EIS assessed the potential effects to marine and migratory birds within the project area and predicted that the project was not likely to result in significant adverse environmental effects on marine and migratory birds, including Species at Risk (SAR); this conclusion was determined with a moderate to high level of certainty based on current understanding of the effects of similar projects on marine and migratory birds.

Monitoring measures were implemented in order to reduce potential environmental effects as they pertain to migratory birds. These consisted of daily surveys of the MODU by a trained individual to determine the presence of stranded birds, with checks being logged and any encounter of a stranded bird, live or dead, documented on a Stranded Bird Encounter datasheet. As required by seabird handling permit SC4039 all original data will be submitted to the Canadian Wildlife Service within the specified reporting timelines. Daily seabird monitoring during the 2022 Hampden (EL 1165A) exploration program included stranded seabird searches from the drilling installation and supply vessels, as well as daily and hourly bird surveys from the drilling installation by trained personnel as per the approved Seabird Management Plan.

## 6 ADDITIONAL MITIGATIONS

### 6.1 Emergency / Spill Response

The EMCL MODU Well Intervention Plan and MODU Well Control Bridging Plan, along with a relief well plan, were submitted to the C-NLOPB as part of the 2022 OA amendment package. These documents, in conjunction with Stena documents, include strategies for maintaining well control on the MODU, disconnect strategies in the event of weather or an emergency, as well as details on how a relief well would be drilled in the unlikely event a loss of well control is encountered. A spill impact mitigation assessment (SIMA) was conducted by EMCL as part of the contingency planning process for exploratory drilling in the Flemish Pass. Throughout the duration of drilling at EL 1165A, there were no accidents or malfunctions that required activation of the Spill Response Plan.

### 6.2 Ice Management

An Ice Management Plan was originally prepared by Provincial Aerospace Limited (PAL) Aerospace Ice and Environmental Services for EMCL. The intent of the plan was to outline procedures that prevent hazardous ice from reaching the MODU and address both iceberg and sea ice. EMCL submitted an update of the Ice Management Plan to reflect 2022 activities to the C-NLOPB as a part of the approved OA submission.