



Ephesus Prospect ROV Survey

Project Description

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List of Acronyms

BP	BP Canada Energy Group ULC
C-NLOPB	Canada-Newfoundland and Labrador Offshore Petroleum Board
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
DFO	Fisheries and Oceans Canada
EA	environmental assessment
EL	Exploration Licence
FSC	food, social and ceremonial
HSSE	health, safety, security and environment
km	kilometres
MARPOL	International Convention for the Prevention of Pollution from Ships
NAFO	North Atlantic Fisheries Organization
NL	Newfoundland and Labrador
ROV	remotely operated vehicle
SARA	<i>Species at Risk Act</i>

1 Introduction

BP Canada Energy Group ULC (BP) is proposing to conduct an exploration drilling program on Exploration Licences (ELs) 1145, 1146, 1148, and 1149 in the Orphan Basin offshore Newfoundland and Labrador with an initial well planned for 2020. To characterize benthic conditions and support planning and mitigation of the drilling program, BP is planning a visual survey of the seafloor using a remotely operated vehicle (ROV) at potential drilling locations within ELs 1145, 1146 and/or 1148 in 2019 (Ephesus Prospect ROV Survey).

Separate environmental assessment and authorization processes are being carried out for BP's proposed exploration drilling program. The Ephesus Prospect ROV Survey (the Project) will require an authorization as an environmental program from the Canada-Newfoundland and Labrador Offshore Petroleum Board (C-NLOPB) pursuant to section 138 of the *Canada-Newfoundland and Labrador Atlantic Accord Implementation Act* and section 134 of the *Canada-Newfoundland and Labrador Atlantic Accord Implementation Newfoundland and Labrador Act* (the Accord Acts).

This document is a Project Description and is being submitted to the C-NLOPB to initiate an environmental assessment (EA) process for the Ephesus Prospect ROV Survey. It has been prepared and submitted in accordance with the *Geophysical, Geological, Environmental and Geotechnical Guidelines* (C-NLOPB 2018) and will allow the C-NLOPB to confirm EA requirements and provide a Scoping Document that will help inform the planning, preparation and submission of the EA report.

2 Project Description

2.1 Project Overview and Rationale

BP is proposing to conduct an ROV video survey of the seafloor at potential drilling locations on ELs 1145, 1146 and/or EL 1148 to confirm the presence/absence of sensitive biological communities (corals and sponges) to inform wellsite planning and mitigation measures for future proposed exploration drilling in West Orphan Basin. ELs 1145, 1146 and 1148 are located within the Northeast Newfoundland Slope Closure marine refuge which was designated as a fisheries closure in December 2017 to protect corals and sponges from bottom-contact fishing. Although exploration drilling is not prohibited within the marine refuge, BP has committed to gathering baseline benthic data at each prospective wellsite prior to spudding the well to understand potential site sensitivities and opportunities for reducing potential adverse environmental effects on corals and sponges.

In order to characterize the benthic environment and inform well planning and mitigation for the proposed drilling program that is scheduled to commence with an initial well in 2020 pending authorization, BP is proposing to conduct an ROV video survey in 2019. Video data collected during the ROV survey would be shared with the C-NLOPB as well as Fisheries and Oceans

Canada (DFO) to improve an understanding of benthic conditions in the area and inform discussions around well planning and mitigation for future exploration drilling.

2.2 Project Location

The Ephesus Prospect ROV Survey would be conducted at potential drilling locations within ELs 1145, 1146 and/or 1148. Specific survey locations are not yet known, but they will be located within the total acreage of these ELs. Figure 1 shows the location of ELs 1145, 1146 and 1148 within which the ROV survey would occur.

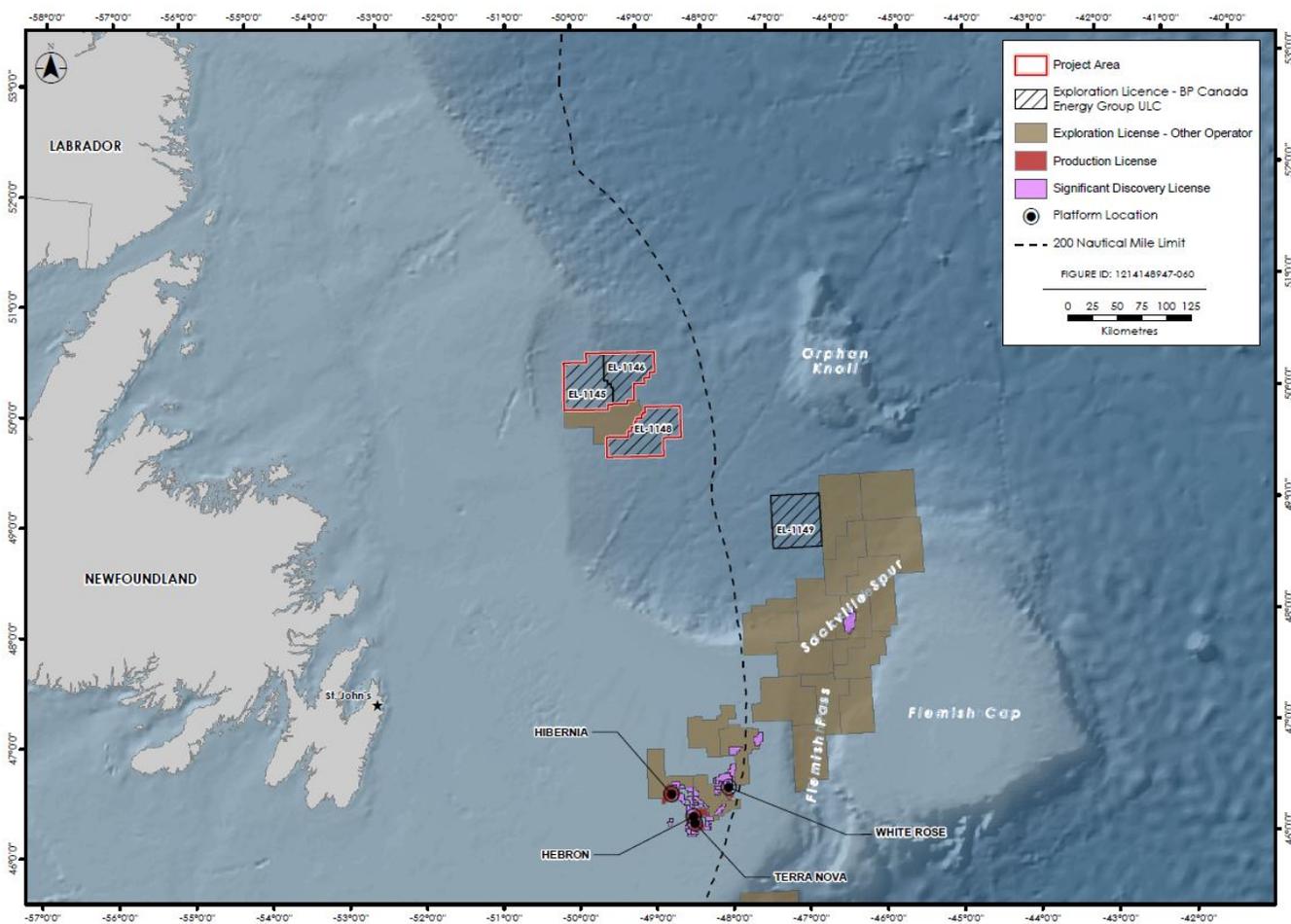


Figure 1 Location of Project Area for Ephesus Prospect ROV Survey

2.3 Schedule

The Ephesus Prospect ROV Survey is planned to be conducted between May and October 2019 pending authorization from the C-NLOPB, although it is possible that ROV video surveys could be conducted within ELs 1145, 1146 and/or 1148 between 2019 and 2025 during the May to October timeframe. It is estimated that the survey would take approximately 7-10 days to complete.

2.4 Project Components and Activities

BP will contract a survey vessel with suitable systems on board and procedures in place to meet the operational requirements to safely conduct the work. The survey vessel will be equipped with dynamic positioning, be capable of working in harsh offshore conditions, and will have the necessary equipment, protocols and procedures in place to comply with the *Canada Shipping Act*, the *International Convention for the Prevention of Pollution from Ships* (MARPOL) and any other applicable standards. The vessel will be inspected by Transport Canada and approved for operation by the C-NLOPB before beginning any Project-related work.

The survey vessel will be mobilized from an existing shorebase in the St. John's region. Once the vessel has arrived at a pre-determined survey location (prospective wellsite), it will use dynamic positioning to remain on station during the ROV survey. The ROV will be lowered into the water from the survey vessel and will be operated from the survey vessel by a qualified ROV operator.

The ROV survey plan will include an eight-legged radial pattern from each prospective wellsite to be surveyed. Each transect leg will be approximately 600m. Depending on distance between stations within the Project Area, ROV transects between centerpoints will be considered.

A video camera system capable of collecting high-definition video data will be mounted on a work-class ROV to collect video data. The ROV will be flown at a predetermined height to maximize field of view while still maintaining resolution and identification of small-scale seafloor features. A laser measuring device will be used to measure the dimensions of seafloor features (e.g., corals, sponges). The ROV position will be recorded and tagged to the video such that the approximate location of features will be possible.

Marine biologists will be present onboard the ship during all operations to identify in real time species and features of interest and modify the survey plan as necessary. This may include, among other activities, stopping for further investigation of species, zooming in to investigate small-scale seafloor features and deviating from the line plan to investigate features in greater detail.

The ROV will also be equipped with a sector scanning sonar which will be used at predetermined intervals along each leg to help identify features that may be beyond the field of view of the ROV camera, but that stand proud of the surrounding seafloor.

Although the focus of the survey will be on identifying sensitive environmental features, BP representatives onboard will also make note of anthropogenic features and other potential geohazards that could be present in the vicinity of prospective wellsites and potentially affect wellsite planning.

2.5 Project Logistics and Personnel

BP is in the process of procuring a qualified contractor to supply the survey vessel and conduct the ROV survey. In addition to the vessel crew (which depends on the size of the vessel and could range from 25-40 persons), it is anticipated that there could be an additional 8-10 persons on board including BP representatives and marine biologists who will be present onboard the ship during ROV operations to identify in real time species and features of interest and modify the survey plan as necessary.

Logistical and support activities for the survey will depend on the contracted survey company. It is anticipated that the vessel would use shore-based facilities in the St. John's region to mobilize for the survey. Given the length of the ROV survey (approximately 7-10 days), it is expected to be completed in a single mobilization, the only exception being weather or mechanical downtime. Resupply and crew changes are not anticipated to be required.

3 Health, Safety and Environmental Management

BP's health, safety, security, and environment (HSSE) goals are: no accidents, no harm to people, and no damage to the environment. Safety is at the heart of everything BP does as a company, driven by leadership and applied across all operations throughout the operating management system framework. Everyone who works for BP is responsible for his or her safety and helps to ensure the safety of colleagues, partners, suppliers, and local communities.

BP's ability to be a safe and responsible operator depends, in part, on the capability and performance of its contractors and suppliers. BP's contract for this work will include clear and consistent information, setting out specific details of BP's expectations. The contract will be awarded following a selection process that takes into account factors such as safety, technical quality, and cost. Contractors and subcontractors (where applicable) will be required to demonstrate conformance with BP's requirements including HSSE standards and mitigative commitments.

Through the operation of the survey vessel, the Project will generate sound emissions (underwater and atmospheric), atmospheric emissions (light emissions and air emissions), and solid and liquid waste discharges. Liquid waste discharges (e.g., grey water, sewage, bilge water, deck drainage) will be managed in accordance with the requirements of MARPOL and the *Canada Shipping Act*. Solid and domestic waste will be collected onboard the vessel and collected dockside by an approved waste contractor for recycling/disposal at an existing onshore waste management facility in accordance with applicable regulatory requirements.

In addition to adhering to proper waste management procedures, the following mitigation will be implemented to reduce environmental effects associated with the Ephesus Prospect ROV Survey:

- Lighting on the survey vessel will be kept to a minimum at night to the extent that it doesn't affect crew/vessel safety.

- The survey vessel will avoid transiting within 300 m of migratory bird nesting colonies during the nesting period and will comply with provincial *Seabird Ecological Reserve Regulations, 2015* to minimize disturbance to colonies.
- During transit to the Project Area, the survey vessel will travel at vessel speed not exceeding 22 km/hour (12 knots), except as needed in the case of an emergency. In the event that a marine mammal or sea turtle is detected in proximity to the vessel, vessel speed will be reduced to avoid collision.
- In the unlikely event of a collision with a marine mammal or sea turtle, BP will contact the Canadian Coast Guard within 24 hours following the collision.
- BP will communicate timing and location of the ROV survey to Indigenous groups and commercial fisheries stakeholders prior to mobilization.

Additional mitigation measures may be identified through the course of consultation and engagement.

A seabird and marine mammal observation program will be conducted for the duration of the ROV survey (including transit to and from the Project Area) by a designated observer trained in marine mammal and seabird observations. The marine mammal monitoring protocol will be conducted in accordance with Environmental Studies Research Fund (ESRF) Report #156 *Recommended Seabird and Marine Mammal Observation Protocols for Atlantic Canada* (Moulton and Mactavish 2004). Seabird monitoring will be conducted in accordance with the Canada Wildlife Service *Eastern Canada Seabirds at Sea (ECSAS) Standardized Protocol for Pelagic Seabird Surveys from Moving and Stationary Platforms* (Gjerdrum et al. 2012).

4 Indigenous and Stakeholder Consultation

As part of Indigenous and stakeholder engagement that BP has been conducting for the Orphan Basin Exploration Drilling Program, BP has communicated the intent to conduct an ROV survey prior to drilling to investigate for sensitive environmental features.

BP will communicate the proposed ROV survey plan including timing and location to Indigenous groups and commercial fisheries stakeholders. Survey results will be shared with Indigenous groups and commercial fisheries stakeholders as part of the Newfoundland Orphan Basin Exploration Drilling Program engagement efforts. BP will also share seabird and marine mammal observation data collected during the survey upon request.

5 Environmental Setting

The eastern Newfoundland offshore area is a highly-productive ecosystem and there are many species of fish, marine mammals, sea turtles, and marine birds that occur, or could potentially occur, in the Project Area. Some of these species are listed as species at risk under the federal *Species at Risk Act* (SARA) and / or are identified as species of conservation interest by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC).

There is a high abundance and diversity of structure-forming benthic invertebrate species that occur in the Orphan Basin and in surrounding areas, including corals, sponges, and sea pens (Amec 2014). DFO has defined a large Significant Benthic Area (SBA) for sea pens that encompasses the edge of the Northeast Newfoundland Shelf, including EL 1145, and small portions of ELs 1146 and 1148. There are additional SBAs for small and large gorgonian corals surrounding the Project Area along the Northeast Newfoundland Slope. The Northeast Newfoundland Slope Closure is a marine refuge designated by DFO which is closed to bottom contact fishing to protect corals and sponges in this area and encompasses all of ELs 1145, 1146 and 1148.

The most abundant fish species found in the Project Area (based on 2015-2016 DFO research vessel survey data) include: redfish; Greenland halibut; roughhead grenadier; roundnose grenadier; witch flounder; and northern wolffish. These species would be expected to be present in the Project Area year-round. The Northern Grand Banks encompasses an area designated as proposed critical habitat for northern and spotted wolffish; both species are listed under SARA Schedule 1 as threatened. The proposed northern wolffish critical habitat overlaps the Project Area along a portion of the Northeast Newfoundland Slope.

Several million seabirds nest along the coasts of the eastern and northeastern Newfoundland, and forage on the Grand Banks and adjacent areas during and following the nesting season. In the summer, most of the world's population of great shearwater and large numbers of sooty shearwater nesting in the South Atlantic are thought to migrate to Newfoundland waters. Leach's storm-petrels traverse the continental shelf to forage for nestlings in deep waters off the shelf in areas such as the Orphan Basin, which is the nearest deep-water area to the largest nesting colony in the world of this species at Baccalieu Island.

Twenty-four marine mammal species are known to occur within or near the Project Area, including 19 species of cetaceans (whales, dolphins, and porpoises) and five species of pinnipeds (seals). Endangered leatherback and loggerhead sea turtles may also potentially occur within or near the Project Area, although their presence would be rare.

The Project Area is located within North Atlantic Fisheries Organization (NAFO) Unit Area 3Kg, where key fisheries species harvested between 2012 and 2016 included Greenland halibut; redfish; greyscale / witch flounder; Atlantic halibut; American plaice; roughhead grenadier; Atlantic cod; skate; snow crab; and northern shrimp. BP is not aware of any food, social or ceremonial (FSC) fishing or harvesting occurring within the Project Area, but is aware of the potential presence of

species in the Project Area which may be harvested by Indigenous peoples outside the Project Area including Atlantic salmon, American eel, swordfish and tuna. Birds and seals that could occur in the Project Area may also be harvested by Indigenous peoples for FSC purposes.

6 Summary and Conclusion

BP is proposing to conduct an exploration drilling program on ELs 1145, 1146, 1148, and 1149 in the Orphan Basin offshore Newfoundland and Labrador with an initial well planned for 2020. To characterize benthic conditions and support planning and mitigation of the drilling program, BP is planning a visual survey of the seafloor using a ROV at potential drilling locations within ELs 1145, 1146 and/or 1148.

The Ephesus Prospect ROV Survey requires an authorization from the C-NLOPB under the Accord Acts. This Project Description has been prepared to initiate an environmental assessment process for the Ephesus Prospect ROV Survey in accordance with the *Geophysical, Geological, Environmental and Geotechnical Program Guidelines* (C-NLOPB 2018).

The survey involves conducting video transects at prospective well locations within ELs 1145, 1146 and 1148, is planned to occur between May and October 2019 pending authorization, and is expected to take 7-10 days to complete.

Building on Indigenous and stakeholder engagement efforts associated with their proposed exploration drilling program in the Orphan Basin, BP will liaise with Indigenous groups and commercial fisheries stakeholders about the Ephesus Prospect ROV Survey and address potential questions and concerns associated with the Project as they arise.

7 References

- AMEC. 2014. Eastern Newfoundland and Labrador Offshore Area Strategic Environmental Assessment. Final Report. Submitted to the Canada-Newfoundland and Labrador Offshore Petroleum Board. St. John's, NL. 527 pp + appendices.
- C-NLOPB [Canada-Newfoundland and Labrador Offshore Petroleum Board]. 2018. Geophysical, Geological, Environmental and Geotechnical Program Guidelines. October 2018.
- Gjerdrum, C., D.A. Fifield, and S.I. Wilhelm. 2012. Eastern Canada Seabirds at Sea (ECSAS) standardized protocol for pelagic seabird surveys from moving and stationary platforms. Canadian Wildlife Service Technical Report Series No. 515. Atlantic Region. vi + 37 pp.
- Moulton, V.D., and B.D. Mactavish. 2004. Recommended seabird and marine mammal observational protocols for Atlantic Canada. LGL Rep. SA775-1. Rep. from LGL Ltd., St. John's, NL, for Environmental Studies Research Funds, Calgary, AB. 71 p. Available online: <https://www.esrfunds.org/sites/www.esrfunds.org/files/pdf/publications/Report156.pdf>