

Atlantic Canada Flemish Pass Exploration Drilling Project

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Document Approval Matrix

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1.0 INTRODUCTION

CNOOC Petroleum North America ULC (CNOOC; formerly known as Nexen Energy ULC) completed an exploration drilling program at Exploration License EL1144 in the Flemish Pass portion of the Canada-Newfoundland and Labrador Offshore Area.

This document is a summary of the activities completed by CNOOC to comply with the conditions set out in the Decision Statement under Section 54 of the Canadian Environmental Assessment Act (CEAA), 2012 (hereafter known as the "Decision Statement") that was issued December 17th, 2019.

2.0 PROJECT DESCRIPTION

2.1 OVERVIEW OF ORIGINAL PROJECT DESCRIPTION

The Environmental Impact Statement (EIS), filed by CNOOC (Formerly Nexen Energy ULC) in 2018, included planned offshore exploration drilling activities over the Project Area (Figure 1) during the 2018-2028 period. The Project includes exploration drilling within EL1144/EL1150, possible appraisal (delineation) drilling in the event of a hydrocarbon discovery, VSP, well testing, eventual well abandonment or suspension activities, and associated supply and service activities (Section 2.5 of the EIS). The Project was planned to involve the drilling of up to 10 wells within the two ELs that comprise the Project Area over its temporal duration.

2.2 2021 EXPLORATION DRILLING

CNOOC drilled a single exploration well in 2021, Pelles A-71. The Pelles prospect is located on EL1144 in approximately 1160 m water depth. Drilling activities were conducted utilizing the Stena Forth, a harsh environment drill ship under the C-NLOPB Operations Authorization (OA) number: 32020-020-0A01.

2.3 KEY PROJECT ACTIVITIES

Key Project activities that were completed during the Pelles A-71 campaign are listed in Table 1 below.

Date	Activity
July 2019	Coral and sponge survey conducted at the Pelles A-71 location
December 2019	CEAA Decision Statement issued for the CNOOC International Flemish Pass Exploration Drilling Project
April 2021	C-NLOPB issues Operations Authorization for Pre-Lay Activities
April 2021	C-NLOPB issues Operations Authorization and Approval to Drill Well (ADW) for Drilling Activities
April 2021	Commencement of Drilling Operations at Pelles A-71 location

Table 1. Summary of Key Project Activities



May 2021	Blow Out Preventer (BOP) and Marine Riser Deployment
June 2021	Marine Mammal Observer (MMO) and Passive Accoustic Monitoring (PAM) technicians deployed for Vertical Seismic Profiling (VSP) operations.
June 2021	BOP and Marine Riser Recovery
July 2021	Pelles A-71 Well Abandonment and Wellhead Removal
August 2021	Follow up program seabed survey completed at the Pelles A-71 well location

3.0 CONDITIONS CLOSURE

The following table has been generated in accordance with Condition 2.8.1 of the Decision Statement which requires a listing of the activities undertaken by CNOOC to comply with each of the statements of the Decision Statement.

Table 2. CEAA Decision Statement Conditions Closure

Category	Condition	Conditions Reference#	Proponent Response	Report Sections
General Conditions	2.1	The Proponent shall ensure that its actions in meeting the conditions set out in this Decision Statement during all phases of the Designated Project are considered in a careful and precautionary manner, promote sustainable development, are informed by the best information and knowledge available at the time the Proponent takes action, including community and Indigenous traditional knowledge, are based on methods and models that are recognized by standard-setting bodies, are undertaken by qualified individuals, and have applied the best available economically and technically feasible technologies.	All CNOOC project actions to meet the conditions set out in the Decision Statement were conducted in a careful and precautionary manner using the best available, technically feasible technologies. CNOOC considered Indigenous and stakeholder knowledge and feedback throughout all phases of the exploration drilling project.	ALL
	2.2	The Proponent shall carry out the Designated Project as defined in 1.9 of the Decision Statement.	CNOOC carried out the designated project as defined in 1.9 of the Decision Statement.	ALL



Consultation	2.3	The Proponent shall, where consultation is a requirement of a condition set out in this Decision Statement: 2.3.1 provide a written notice of the opportunity for the party or parties being consulted to present their views and information on the subject of the consultation; 2.3.2 provide sufficient information on the scope and the subject matter of the consultation in a period of time that allows the party or parties being consulted, to prepare their views and information; 2.3.3 undertake an impartial consideration of all views and information presented by the party or parties being consulted on the subject matter of the consultation; and 2.3.4 advise in a timely manner the party or parties being consulted on how the views and information received have been considered by the Proponent.	Where consultation is required as a condition set out in the decisions statement, CNOOC conducted engagement with all parties in accordance to the requirements of 2.3.1 to 2.3.4. A summary of CNOOC consultation can be found in Section 4.4 of this report.	4.4
	2.4	The Proponent shall, where consultation with Indigenous groups is a requirement of a condition set out in this Decision Statement, communicate with each Indigenous group with respect to the manner by which to satisfy the consultation requirements referred to in condition 2.3, including methods of notification, the type of information and the period of time to be provided when seeking input, the process to be used by the Proponent to undertake impartial consideration of all views and information presented on the subject of the consultation, the period of time to advise Indigenous groups of how their views and information were considered by the Proponent and the means by which Indigenous groups will be advised.	Where consultation with Indigenous groups is a requirement of the decision statement, CNOOC followed the consultation methods as described in section 2.3 and 2.4.	4.4



Follow-up and Adaptive Management	2.5	The Proponent shall, where a follow-up program is a requirement of a condition set out in this Decision Statement, determine the following information, for each follow-up program: 2.5.1 the methodology, location, frequency, timing and duration of monitoring associated with the follow-up program as necessary to verify the accuracy of the environmental assessment predictions as they pertain to the particular condition and to determine the effectiveness of any mitigation measure(s); 2.5.2 the scope, content and frequency of reporting of the results of the follow-up program; 2.5.3 the levels of environmental change relative to baseline conditions and predicted effects as described in the Environmental Impact Statement, that would require the Proponent to implement modified or additional mitigation measure(s), including instances where the Proponent may be required to stop Designated Project activities; and 2.5.4 the technically and economically feasible mitigation measures to be implemented by the Proponent if monitoring conducted as part of the follow-up program shows that the levels of environmental change have reached or	Where a follow-up program is a requirement of a condition set out in this decision statement, CNOOC submitted a follow up program that incorporated the information described in 2.5.1 - 2.5.4. All plans were reviewed by the C-NLOPB and other identified stakeholders prior to implementation.	5.1, 5.2, 5.3, 5.5, 6.0, 7.0
	2.6	exceeded the limits referred to in condition 2.5.3. The Proponent shall submit the information referred to in condition 2.5 to the Board prior to the implementation of each follow-up program. The Proponent shall update that information in consultation with relevant authorities during the implementation of each follow-up program, and shall provide the updated information to the Board within 30 days of the information being updated.	Where follow-up programs were required, the information referred to in condition 2.5 was provided to the C-NLOPB prior to the implementation of the follow-up program.	N/A



	2.7	The Proponent shall, where a follow-up program is a requirement of a condition set out in this Decision Statement: 2.7.1 conduct the follow-up program according to the information determined pursuant to condition 2.5; 2.7.2 undertake monitoring and analysis to verify the accuracy of the environmental assessment as it pertains to the particular condition and/or to determine the effectiveness of any mitigation measure(s); 2.7.3 determine whether modified or additional mitigation measures are required based on the monitoring and analysis undertaken pursuant to condition 2.7.2; and 2.7.4 if modified or additional mitigation measures are required pursuant to condition 2.7.3, develop and implement these mitigation	All follow-up programs were conducted according to the information and plans submitted to the C-NLOPB.	5.2, 5.2, 5.3, 5.5, 6.0, 7.0
Reporting	2.8	measures in a timely manner and monitor them pursuant to condition 2.7.2. The Proponent shall, within 90 days of the completion of the drilling program for a single year program, or annually within 90 days of the end of each calendar year of a multi-year drilling program, submit to the Board and the Agency a report, including an executive summary of the report in both official languages. The Proponent shall document in the report: 2.8.1 the activities undertaken by the Proponent in the reporting year to comply with each of the conditions set out in this Decision Statement; 2.8.2 how the Proponent complied with condition 2.1; 2.8.3 for conditions set out in this Decision Statement for which consultation is a requirement, how the Proponent considered any views and information that the Proponent received during or as a result of the consultation; 2.8.4 the information referred to in conditions 2.5 and 2.6 for each follow-up program;	The Closure report for EL1144 will be submitted prior to October 4th, 2021. This is within 90 days of well completion (July 6th, 2021). An executive summary in both official languages will also be submitted.	ALL



		2.8.5 the results of the follow-up program requirements identified in conditions 3.12 and 4.3; and		
Information Submission and Publication	2.9	The Proponent shall cause to be published on the Internet the reports and the executive summaries referred to in condition 2.8, the seabed investigation survey results referred to in condition 3.6, the communication plan referred to in condition 5.1, the well and wellhead abandonment plan referred to in condition 5.2, the well control strategies referred to in condition 6.5, the spill response plan referred to in condition 6.7, the Spill Impact Mitigation Assessment referred to in condition 6.11, the implementation schedule referred to in condition 7.1, monitoring and follow-up results for marine mammals, fish and fish habitat, and migratory birds and any update(s) or revision(s) to the above documents, upon submission of these documents to the parties referenced in the respective conditions. The Proponent shall notify Indigenous groups of the availability of these documents within 48 hours of their publication.	All required documents were posted to the internet at the following website as they were finalized: https://cnoocinternational.com/op erations/americas/canada/atlantic-canada When the website went live, Indigenous groups were made aware of the availability of documents. As documents were added, CNOOC provided notification within 48 hours of their publication and CNOOC will continue to do so as they become available.	4.3
	2.10	When the development of a plan is a requirement of a condition set out in this Decision Statement, the Proponent shall submit the plan to the Board prior to the start of the drilling program, unless otherwise required through the condition.	CNOOC submitted all plans to the C-NLOPB prior to the start of the drilling program, unless otherwise required through the condition.	N/A
Change of Operator	2.11	The Proponent shall notify the Agency and Indigenous groups in writing no later than 60 days after the day on which there is a change of operator for the Designated Project.	There was no change of operator for the designated project.	N/A
Change to the Designated Project	2.12	The Proponent shall consult with Indigenous groups and relevant authorities prior to notifying the Board and the Agency of any potential changes to the Designated Project, as described in condition 2.13.	No changes to the Designated Project have occurred.	N/A



	2.13	The Proponent shall notify the Board and the Agency in writing of any potential changes to the Designated Project that would result in a change to the Designated Project description included in the Decision Statement or that may result in adverse environmental effects. In notifying the Board and the Agency, the Proponent shall provide a description of the change(s) to the Designated Project, the predicted adverse environmental effects and the proposed mitigation measures and follow-up requirements to be implemented by the Proponent to ensure that the changes do not result in adverse environmental effects greater than those predicted in the environmental assessment report. The Proponent shall also describe the results of the consultation with Indigenous groups and relevant authorities.	No changes to the Designated Project have occurred.	N/A
Fish and Fish Habitat	3.1	The Proponent shall treat all discharges from offshore drilling into the marine environment which, at a minimum, will meet the volumes and concentration limits identified in the Offshore Waste Treatment Guidelines, issued jointly by the National Energy Board, the Canada-Newfoundland and Labrador Offshore Petroleum Board, the Canada-Nova Scotia Offshore Petroleum Board, and any other legislative requirements, where applicable.	CNOOC treated all discharges into the marine environment in compliance with the approved Environmental Protection Plan that was prepared in accordance with the Offshore Waste Treatment Guidelines. Monthly compliance monitoring reports were submitted to the C-NLOPB for regulated waste streams.	5.4
	3.2	The Proponent shall dispose of spent or excess synthetic-based drilling muds that are not reused at an approved on-shore facility.	CNOOC removed synthetic based drilling mud from the mud tanks and transported the mud onshore for reuse or disposal at an onshore facility.	N/A
	3.3	The Proponent shall apply, at a minimum, the standards identified in the Offshore Chemical Selection Guidelines for Drilling & Production Activities on Frontier Lands, issued jointly by the National Energy Board, the Canada-Newfoundland and Labrador Offshore Petroleum Board and the Canada-Nova Scotia Offshore Petroleum Board, to select lower toxicity chemicals for use and discharge into the marine environment, including drilling fluid constituents, and shall submit any necessary risk justification pursuant to the guidelines to the Board for acceptance prior to use.	CNOOC chemicals were selected in accordance with CNOOC's Chemical Screening Procedural Aid that was created in alignment with the Offshore Chemical Selection Guidelines for Drilling & Production Activities on Frontier Lands.	N/A



3.4	The Proponent shall treat all discharges from supply vessels into the marine environment in accordance with the International Maritime Organization's International Convention for the Prevention of Pollution from Ships and any other legislative requirements, where applicable.	All supply vessels followed the International Convention for the Prevention of Pollution from Ships (MARPOL).	N/A
3.5	The Proponent shall conduct a pre-drill survey with qualified individual(s) at each well site to confirm the presence or absence of any unexploded ordnance or other seabed hazards. If any such ordnance or seabed hazard is detected, it shall not be disturbed and the Proponent shall contact the Canadian Coast Guard's Joint Rescue Coordination Centre in Halifax and the Board to determine an appropriate course of action, prior to commencing drilling.	CNOOC conducted a visual seabed survey in July 2019 using qualified individuals for the Pelles A-71 well location and no unexploded ordinance or other seabed hazards were found.	5.1
3.6	The Proponent shall develop and conduct, in consultation with Fisheries and Oceans Canada and the Board, a seabed investigation survey to confirm the presence or absence of any aggregations of habitat-forming corals or sponges or any other environmentally sensitive features prior to drilling a well. The Proponent shall retain the services of an individual that is qualified to operate the equipment used to conduct the survey(s). Survey transect length and pattern around well sites shall be based on applicable drill cutting dispersion model results. Transects around anchor sites should extend at least 50 metres from each structure.	CNOOC met with Fisheries and Oceans Canada and the C-NLOPB and reached agreement on the seabed investigation survey design for the 2019 field program in advance of the 2020 drilling campaign. The 2019 field program incorporated the drill cuttings dispersion modelling results. A site survey report was submitted to the C-NLOPB on February 12, 2020.	5.1



3.7	If the survey(s) conducted in accordance with condition 3.6 confirm(s) the presence of aggregations of habitat-forming corals or sponges, or if other environmentally sensitive features are identified by a qualified individual, the Proponent shall change the location of the anchor(s) or well on the seafloor or redirect drill cuttings discharges to avoid affecting the aggregations of habitat-forming corals or sponges or other environmentally sensitive features, unless not technically feasible, as determined in consultation with the Board. If not technically feasible, the Proponent shall consult with the Board and Fisheries and Oceans Canada prior to commencing drilling to determine an appropriate course of action, subject to the approval of the Board, including any additional mitigation measures.	During the 2019 visual seabed survey at the Pelles A-71, the original proposed well location was moved 30m on a 193 degree heading to avoid a cluster of five sea pen corals located roughly 80m from the original proposed well location. The survey was then completed with no additional aggregations of habitat-forming corals or sponges or other environmentally sensitive features within 100m of the revised Pelles A-71 well location. A site survey report was prepared and submitted to the C-NLOPB on February 12, 2020.	5.1
3.8	The Proponent shall apply Fisheries and Oceans Canada's Statement of Canadian Practice with Respect to the Mitigation of Seismic Sound in the Marine Environment during the planning and the conduct of vertical seismic surveys. In doing so, the Proponent shall establish a safety zone of a minimum radius of 500 metres from the seismic sound source.	CNOOC developed and implemented a Marine Mammal Monitoring Plan that met the requirements outlined in the Fisheries and Oceans Canada's Statement of Canadian Practice with Respect to the Mitigation of Seismic Sound in the Marine Environment which was submitted for review prior to conducting any vertical seismic surveys, including the establishment of a safety zone with a minimum radius of 500 metres from the seismic sound source.	6.0



3.9	The Proponent shall develop, in consultation with Fisheries and Oceans Canada and the Board, a marine mammal monitoring plan that shall be submitted to the Board at least 30 days prior to the commencement of any vertical seismic survey. The Proponent shall implement the plan during the conduct of vertical seismic surveys. As part of the plan, the Proponent shall:	CNOOC submitted a Marine Mammal Monitoring Plan that included the items listed in 3.9.1 - 3.9.3 for consultation with Fisheries and Oceans Canada and the C- NLOPB. The feedback was reviewed and implemented prior to implementation.	6.0
	3.9.1 develop and implement marine mammal observation requirements, including the use of passive acoustic monitoring, or equivalent technology, and visual monitoring by marine mammal observers throughout vertical seismic surveys;		
	3.9.2 ensure that observation requirements specify the requirement for shut down of the seismic sound source if any marine mammal or sea turtle is observed within the 500 metre safety zone; and		
	3.9.3 submit the results of the activities undertaken as part of the marine mammal observation		
3.10	The Proponent shall implement measures to prevent or reduce the risks of collisions between supply vessels and marine mammals and sea turtles, including: 3.10.1 requiring supply vessels to use established shipping lanes, where they exist; and	CNOOC implemented measures to reduce the risks of collisions between supply vessels and marine mammals and sea turtles. Requirement for reduced speeds in the presence of marine mammals were confirmed with supply vessels.	N/A
	3.10.2 requiring supply vessels to reduce speed to a maximum of 7 knots when a marine mammal or sea turtle is observed or reported within 400 metres of a supply vessel, except if not feasible for safety reasons.	Note that CNOOC utilized a direct route for transit between drilling operations at Pelles A-71 and St. John's harbour. Established shipping lanes did not exist to the project area.	
3.11	The Proponent shall report any collisions of a supply vessel with marine mammals or sea turtles to the Board, Fisheries and Oceans Canada's Canadian Coast Guard Regional Operations Centre, and any other relevant authorities as soon as reasonably practicable but no later than 24 hours following the	No collisions of supply vessels with marine mammals or sea turtles occurred during this exploration program.	N/A



	collision, and notify Indigenous groups within three days.		
3.12	The Proponent shall develop and implement follow-up requirements, pursuant to condition 2.5, to verify the accuracy of the predictions made during the environmental assessment as it pertains to fish and fish habitat, including marine mammals and sea turtles, and to determine the effectiveness of mitigation measures identified under conditions 3.1 to 3.11. As part of these follow-up requirements, for the duration of the drilling program, the Proponent shall:	CNOOC developed and implemented a follow up program pursuant to condition 2.5. Results of this follow-up program can be found in reports: "2021 CNOOC Drilling Discharges Follow-up Monitoring" and "Flemish Pass Exploration Drilling Project: Marine Mammal and Sea Turtle Monitoring and Mitigation Report" A summary of the results can be found in section 5 and section 6 of the closure report.	5.1, 5.2, 5.3, 5.4, 6.0
3.12.1	for every well, measure the concentration of synthetic-based drilling fluids retained on discharged drill cuttings as described in the Offshore Waste Treatment Guidelines to verify that the discharge meets, at a minimum, the performance targets set out in the Guidelines and any applicable legislative requirements, and report the results to the Board;	The concentration of synthetic- based drilling fluids retained on discharged drill cuttings was measured in accordance to the Offshore Waste Treatment Guidelines. The results were reported to the C-NLOPB.	5.3.1



3.12.2	for the first well in each exploration licence, and for any well where drilling is undertaken in an area determined by seabed investigation surveys to be sensitive benthic habitat, and for any well located within a special area designated as such due to the presence of sensitive coral and sponge species, or a location near a special area where drill cuttings dispersion modelling predicts that drill cuttings deposition may have adverse effects, develop and implement, in consultation with Fisheries and Oceans Canada and the Board, follow-up requirements to verify the accuracy of the environmental assessment and effectiveness of mitigation measures as they pertain to the	Pelles A-71 was the first well in exploration license EL1144. A follow up program was developed and implemented in consultation with Fisheries and Oceans Canada and the CNLOPB that included the items listed in 3.12.2.1 - 3.12.2.3. The follow up program report: "2021 CNOOC Drilling Discharges Follow-up Monitoring" for EL1144 was submitted prior to September 4th, 2021. This was within 60 days of well completion (July 6th, 2021).	5.1, 5.2, 5.3, 5.4
	effects of drill cuttings discharges on benthic habitat. Follow-up shall include: 3.12.2.1 measurement of sediment deposition extent and thickness post-drilling to verify the drill waste deposition modeling predictions; 3.12.2.2 benthic fauna surveys to verify the effectiveness of mitigation measures; and 3.12.2.3 the Proponent shall report the information collected, as identified in		
2422	conditions 3.12.2.1 and 3.12.2.2, including a comparison of modelling results to in situ results, to the Board within 60 days following the drilling of the first well in each exploration licence; and	Dallag A 74 was blood from the	
3.12.3	for the first well in each exploration license, develop and implement, in consultation with Fisheries and Oceans Canada and the Board, follow-up requirements to verify the accuracy of the environmental assessment as it pertains to underwater sound levels. As part of the development of these follow-up requirements, the Proponent shall determine how underwater sound levels shall be monitored through field measurement by the Proponent	Pelles A-71 was the first well in exploration license EL1144. A follow up program was developed and implemented in consultation with Fisheries and Oceans Canada and the C-NLOPB to verify the accuracy of the environmental assessment as it pertains to underwater sound levels.	5.5
	during the drilling program and shall provide that information to the Board prior to the start of the drilling program.	The follow up program report: "Flemish Pass Accoustic Monitoring: Ambient Characterization and Marine Mammal Monitoring near a Mobile Offshore Drilling Unit" will be submitted to the C-NLOPB upon receipt of the final version.	



	3.13	The Proponent shall submit to the Board a letter, prior to drilling, confirming its intent to participate in research pertaining to the presence of Atlantic salmon (Salmo salar) in the Eastern Canadian offshore areas and update the Board and Indigenous groups annually on related research activities.	CNOOC provided a letter to the C-NLOPB on March 6, 2020 confirming its intent to participate in research pertaining to the presence of Atlantic salmon (Salmo salar) in the Eastern Canadian offshore areas.	4.5
Migatory Birds	4.1	The Proponent shall carry out the Designated Project in a manner that protects migratory birds and avoids harming, killing or disturbing migratory birds or destroying, disturbing or taking their nests or eggs. In this regard, the Proponent shall be in compliance, where applicable, with the Migratory Birds Convention Act, 1994, the Migratory Birds Regulations and with the Species at Risk Act and shall take into account Environment and Climate Change Canada's Avoidance Guidelines.	CNOOC carried out the Designated Project in a manner that protects migratory birds and avoids harming, killing or disturbing migratory birds or destroying, disturbing or taking their nests or eggs. CNOOC ensured that seabird handling permits were obtained for project activities and that all associated plans were reviewed by Environment and Climate Change Canada - Canadian Wildlife Services(ECCC-CWS)	7.0



4.2	The Proponent shall implement measures to avoid harming, killing or disturbing migratory birds, including: 4.2.1 using a drill pipe conveyed test assembly, or similar technology, rather than formation testing with flaring, where acceptable by the Board; 4.2.2 limiting flaring to the length of time required to characterize the wells' hydrocarbon potential and as necessary for the safety of the operation; 4.2.3 flaring as early as practicable during daylight hours to limit flaring that occurs during nighttime;	CNOOC did not execute flaring operations as part of the Pelles A-71 exploration well. Therefore, mitigations 4.2.1 - 4.2.5 were not implemented. CNOOC worked with the MODU and supply vessel vendors to identify and implement reduced lighting as described in 4.2.6. These reduced lighting opportunities were tracked monthly and provided to CNOOC.	7.0
	during nighttime; 4.2.4 operating a water curtain barrier around the flare during flaring; 4.2.5 notifying the Board at least 30 days in advance of planned flaring to determine whether the flaring would occur during a period of migratory bird vulnerability and to determine how the Proponent plans to avoid adverse environmental effects on migratory birds; 4.2.6 controlling lighting required for the operation of the Designated Project for the duration of the drilling program, including the direction, timing, intensity, and glare of light fixtures, while meeting operational health and safety requirements;	CNOOC also confirmed that supply vessels and helicopter operations were executed in accordance with 4.2.7 and 4.2.8.	
	4.2.7 requiring supply and other support vessels to maintain a minimum lateral distance of 300 metres from Cape St. Francis and Witless Bay Islands Important Bird and Biodiversity Areas, unless there is an emergency situation; and 4.2.8 requiring supply helicopters to fly at altitudes greater than 300 metres above sea level from active bird colonies and at a lateral distance of 1000 metres from Cape St. Francis and Witless Bay Islands Important Bird and Biodiversity Areas except for approach, take-		

off and landing maneuvers, as required under the Canadian Civil Aviation Regulations or if

not feasible for safety reasons.

4.3



The Proponent shall develop, prior to the start of the drilling program and in consultation with Environment and Climate Change Canada and the Board, follow-up requirements, pursuant to condition 2.5, to verify the accuracy of the environmental assessment as it pertains to migratory birds and to determine the effectiveness of the mitigation measures implemented by the Proponent to avoid harm to migratory birds, their eggs and nests, including the mitigation measures used to comply with conditions 4.1 and 4.2. The Proponent shall implement these follow-up requirements for the duration of the drilling program. As part of the follow-up, the Proponent shall:

4.3.1 monitor daily for the presence of marine birds from the drilling installation using a trained observer following Environment and Climate Change Canada's Eastern Canada Seabirds at Sea Standardized Protocol for Pelagic Seabird Surveys from Moving and Stationary Platforms; and

4.3.2 monitor the drilling installation and supply vessels daily for the presence of stranded birds and follow Environment and Climate Change Canada's Procedures for Handling and Documenting Stranded Birds **Encountered on Infrastructure Offshore** Atlantic Canada.

A follow up program was developed 7.0 and implemented in consultation with ECC-CWS and the CNLOPB to verify the accuracy of the environmental assessment as it pertains to migratory birds. CNOOC monitored for the presence of marine birds from the drilling operation using a trained observer as described in 4.3.1. CNOOC also monitored the drilling installation and supply vessels daily for the presence of stranded birds as described in 4.3.2.

The follow up program report: "Pelles A-71 Seabird Observation and Monitoring Follow Up Program Report" for Pelles A-71 was submitted prior to October 4th, 2021. This is within 90 days of well completion (July 6th, 2021).



Indigenous and Commercial Fisheries	5.1	The Proponent shall develop and implement a Fisheries Communication Plan in consultation with the Board, Indigenous groups and commercial fishers. The Proponent shall develop the Fisheries Communication Plan prior to drilling and implement it for the duration of the drilling program. The Proponent shall include in the Fisheries Communications Plan: 5.1.1 procedures to notify Indigenous groups and commercial fishers of planned drilling activity, a minimum of two weeks prior to the start of drilling of each well; 5.1.2 procedures to determine the requirement for a Fisheries Liaison Officer and/or fisheries guide vessel during drilling installation movement and geophysical programs; 5.1.3 procedures to notify Indigenous groups and commercial fishers in the event of a spill or unplanned release of oil or any other substance, and communicate the results of the monitoring and any associated potential health risks referred to in condition 6.10; 5.1.4 procedures to engage in two-way communication with Indigenous groups and commercial fishers in the event of a spill requiring a tier 2 or tier spill 3 response over the duration of the spill response; and 5.1.5 the type of information that will be communicated to Indigenous groups and commercial fishers, and the timing of distribution of this information, that will include but not be limited to: 5.1.5.1 a description of planned Designated Project activities; 5.1.5.2 location(s) of safety exclusion zones; 5.1.5.3 anticipated vessel raffic schedule; 5.1.5.4 anticipated vessel routes; and 5.1.5.5 locations of suspended or abandoned wellheads.	CNOOC developed and implemented Commercial Fisheries and Indigenous Fisheries Communication Plans in consultation with the Board, Indigenous groups and commercial fishers. CNOOC notified Indigenous and Commercial Fisheries greater than two weeks prior to the start of drilling activities CNOOC utilized a Fisheries Liaison Officer in consultation with commercial fisheries for the mobilization of the Stena Forth to the Pelles A-71 locations. CNOOC utilized a Fisheries Guide Vessel for the demobilization transits of the Stena Forth in consultation with commercial fisheries. Monthly operational updates were provided to both commercial and Indigenous fisheries inclusive of the information listed in 5.1.5.	4.1
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5	5.2	The Proponent shall develop and implement a well and wellhead abandonment plan and submit it to the Board for acceptance at least 30 days prior to abandonment of each well. If the Proponent proposes to abandon a wellhead on the seafloor in a manner that may interfere with Indigenous or commercial fisheries, the Proponent shall develop the wellhead abandonment strategy in consultation with commercial fishers and potentially affected Indigenous groups with fishing licences that overlap with the Designated Project Area, identified in consultation with Fisheries and Oceans Canada.	The well and wellhead abandonment plan was submitted to the C-NLOPB 30 days prior to the abandonment of each well. An overview of this plan was posted to the project website upon review by the C-NLOPB. CNOOC successfully removed the Pelles A-71 wellhead from the seafloor as part of abandonment operations.	N/A
5	5.3	The Proponent shall provide the details of its operation, including the safety exclusion zones during drilling and testing, and the location information of abandoned wellheads if left on the seafloor, to the Marine Communications and Traffic Services for broadcasting and publishing in the Notices to Shipping, to the North Atlantic Fisheries Organization Secretariat, and to the Canadian Hydrographic Services for future nautical charts and planning.	CNOOC made multiple communications as described in 5.3 with respect to drilling operations including: - Notification of Rig Arrival in Bay Bulls - Notification of Stena Forth transit to Pelles A-71 - Notification of Stena Forth at Pelles A-71 - Notification of Stena Forth transit Demob Location - Notification of MODU transit to EEZ	N/A
5	5.4	The Proponent shall report annually to the Board on known incidents of lost or damaged fishing gear attributed to the Designated Project.	No known incidents of lost or damaged fishing gear were attributed to CNOOC's operations.	N/A



Accidents and Malfunctions	6.1	The Proponent shall take all reasonable measures to prevent accidents and malfunctions that may result in adverse environmental effects and mitigate any adverse environmental effects from accidents and malfunctions that do occur. In doing so, the Proponent shall: 6.1.1 develop and implement operating procedures including thresholds for cessation of a work or activity, with respect to meteorological and oceanographic conditions experienced at the project location, and which reflect the facility's design limits and limits at which any work or activity may be conducted safely and without causing adverse environmental effects. These conditions include poor weather, high sea state, and presence of sea ice or icebergs; and 6.1.2 implement emergency response procedures and contingency plans developed in relation to the Designated Project in the event of an accident or malfunction. The Proponent shall develop, in consultation with the Board and Environment and Climate	CNOOC developed and implemented a number of operating procedures, emergency response and contingency plans in planning the Pelles A-71 operations. These include: Helicopter Operations Procedural Aid, Atlantic Canada Exploration Drilling Safety Plan, Marine Operations Manual, Physical Environment Monitoring Protocol, Ice Management Plan, Adverse Weather Protocol, Emergency Response Procedural Aid, Incident Command System Initial Emergency Response Procedure, Incident Command System Expanded Response Plan, Wildlife Response Plan, Source Control Plan and Source Control Contingency Plan.	8 N/A
		Change Canada, and implement for the duration of the drilling program, a physical environment monitoring program, in accordance with the Newfoundland Offshore Petroleum Drilling and Production Regulations that meets or exceeds the requirements of the Offshore Physical Environmental Guidelines (September 2008). The physical environment monitoring program shall be submitted to the Board for approval prior to commencing drilling.	Environment Monitoring Plan to the C-NLOPB for consultation with Environment and Climate Change Canada that met the requirements of the Offshore Physical Environmental Guidelines (September 2008) prior to the commencement of drilling.	
	6.3	The Proponent shall prepare a plan for avoidance of drilling installation collisions with vessels and other hazards that may reasonably be expected in the Designated Project Area and submit the plan to the Board for acceptance prior to drilling.	CNOOC collision avoidance plan was submitted as part of the marine operations manual that was included in the OA application.	N/A
	6.4	The Proponent shall prepare an Ice Management Plan that will include measures for avoidance of collisions with icebergs and submit the plan to the Board for acceptance prior to drilling.	CNOOC Ice Management Plan was submitted as part of the marine operations manual that was included in the OA application.	8.2



6.5	The Proponent shall prepare and submit to the Board well control strategies that include: 6.5.1 measures for well capping and containment of fluids released from well and the drilling of a relief well, as well as options to reduce overall response timeline; and 6.5.2 measures to quickly disconnect the marine drilling riser from the well in the event of an emergency or extreme weather conditions.	CNOOC prepared and submitted to the C-NLOPB a well control strategies document that was inclusive of the requirements listed in 6.5.1 and 6.5.2. This document was submitted as part of the OA process on February 15th, 2021.	8.1
6.6	The Proponent shall develop and implement procedures to maintain up-to-date information on the availability of capping stack(s), vessels capable of deploying the capping stack(s), and drilling rigs capable of drilling a relief well at the Project site prior to and during the drilling of each well. The Proponent shall communicate this information to the Board and update the Board when any of this information changes, prior to and during the drilling of each well.	CNOOC maintained up-to-date information on the availability of capping stack(s), vessels capable of deploying capping stack(s) and drilling rigs throughout the campaign. CNOOC met with the C-NLOPB prior to the commencement of drilling and prior to the drilling of each hole section to confirm the status of the specified equipment.	8.1
6.7	The Proponent shall prepare a Spill Response Plan and provide a draft of the plan to Indigenous groups for comment, taking into consideration these comments prior to submitting the plan to the Board for acceptance. The plan shall be submitted to the Board for acceptance prior to drilling. The Spill Response Plan will include the following: 6.7.1 procedures to respond to and mitigate the potential environmental effects of a spill of any substance that may cause adverse environmental effects, including spill containment and recovery procedures; 6.7.2 reporting thresholds and notification procedures; 6.7.3 measures for wildlife response, protection and rehabilitation, including procedures for the collection and cleaning of marine mammals, migratory birds, sea turtles and species at risk, and measures for shoreline protection and clean-up; and 6.7.4 roles and responsibilities for offshore operations and onshore responders.	CNOOC prepared a spill response plan that incorporated items 6.7.1 to 6.7.4 and submitted a draft of the plan to Indigenous Groups on February 5th, 2020. CNOOC provided a copy of this plan March 13th, 2020 to Indigenous Groups after consideration and incorporation of feedback. A minor update to this plan was completed in 2021 incorporating additional feedback from the C-NLOPB.	8.1



6.8	The Proponent shall conduct an exercise of the Spill Response Plan prior to drilling activities as recommended in the Newfoundland Offshore Drilling and Production Guidelines, document any deficiencies observed during this exercise and provide these deficiencies to the Board for review, and adjust the plan to the satisfaction of the Board to address any deficiencies identified during the exercise.	CNOOC conducted a Spill Response Exercise prior to the commencement of drilling activities. CNOOC provided a copy of the Oil Spill Response exercise report to the C-NLOPB March 9th, 2020 and to Indigenous Groups on March 13th, 2020.	8.1
6.9	The Proponent shall review the Spill Response Plan prior to the drilling of each well to verify that it continues to be appropriate and shall update the plan as necessary and in a manner acceptable to the Board.	CNOOC reviewed the Spill Response Plan prior to 2021 operations. Minor updates were made to the plan which was then updated, resubmitted to the C-NLOPB and reposted online.	8.1
6.10	In the event of a spill or unplanned release of oil or any other substance that may cause adverse environmental effects, the Proponent shall notify the Board and any other relevant authorities as soon as possible, and implement its Spill Response Plan, including procedures for notification of Indigenous groups and commercial fishers developed in condition 5.1.3. As required by and in consultation with the Board, this may include monitoring the environmental effects of a spill on components of the marine environment until specific endpoints identified in consultation with relevant authorities are achieved. As applicable, this may include: 6.10.1 sensory testing of seafood for taint, and chemical analysis for oil concentrations and any other contaminants, as applicable; 6.10.2 measuring levels of contamination in recreational, commercial and traditionally harvested fish species with results integrated into a human health risk assessment, to be submitted to relevant authorities, to determine the fishing area closure status; 6.10.3 monitoring for marine mammals, sea turtles and birds for signs of contamination or oiling and reporting results to the Board, Fisheries and Oceans Canada, and Environment and Climate Change Canada; and 6.10.4 monitoring benthic organisms and habitats in the event of a spill or other event that could result in smothering or localized effects to the benthic environment.	Throughout Pelles A-71 drilling operations, CNOOC did not activate the Offshore Spill Response Plan. Therefore, no further environmental effects monitoring was required.	8.1



6.11	The Proponent shall undertake a Spill Impact Mitigation Assessment to identify spill response options that will be implemented in the case of a spill to provide for the best opportunities to minimize environmental consequences, and provide it to the Board for review prior to drilling.	CNOOC developed a Spill Impact Mitigation Assessment (SIMA) as part of the project planning process that was provided to the C-NLOPB on December 3, 2019. Feedback on the SIMA was received by CNOOC from the C-NLOPB on April 2nd, 2020. Feedback was incorporated by CNOOC and resubmitted to the C-NLOPB on July 7th, 2020. The final SIMA is now posted on CNOOC's External Website.	8.1
6.12	The Proponent shall provide Indigenous groups with the results of the exercise conducted pursuant to condition 6.8, following its review by the Board. The Proponent shall provide the final Spill Response Plan to Indigenous groups prior to drilling and any updates to the Spill Response Plan pursuant to condition 6.9.	CNOOC provided a copy of the Oil Spill Response exercise report and updated Offshore Spill Response plan to Indigenous Groups on March 13th, 2020.	8.1
6.13	In the event of an uncontrolled sub-sea release from the well, the Proponent shall begin the immediate mobilization of subsea containment and capping equipment to the site of the uncontrolled subsea release. Simultaneously, the Proponent shall commence mobilization of a relief well drilling installation.	CNOOC did not have an uncontrolled sub-sea release during Pelles A-71 operations.	8.1
6.14	If drilling is anticipated in water depths in excess of 2 500 m or less than 500 m, the Proponent shall undertake further analysis to confirm the capping stack technology selected can be deployed and operated safely at the proposed depth and submit this analysis to the Board for approval.	CNOOC did not drill a well in water depths in excess of 2500m or less than 500m.	8.1
6.15	In the event of an accident or malfunction, the Proponent shall comply with the requirements of the Accord Acts and the Canada-Newfoundland and Labrador Offshore Financial Requirement Regulations and the requirements described in the Compensation Guidelines Respecting Damages Relating to Offshore Petroleum Activity.	CNOOC did not have an accident or malfunction occur during Pelles A-71 operations.	8.1



	6.16	The Proponent shall report annually to the Board on the effectiveness of operating procedures and cessation of work or activity thresholds, established for operating in poor weather, high sea state, and sea ice or iceberg conditions. The report shall include a description of any modifications to operations implemented in response to adverse environmental conditions, in accordance with the Newfoundland Offshore Petroleum Drilling and Production Regulations.	CNOOC submitted a comprehensive environment report "Atlantic Canada Flemish Pass Exploration Drilling Project: Pelles A-71 Environmental Report" that includes the information identified in Condition 6.16.	
Implementati on Schedule	7.1	The Proponent shall submit to the Board a schedule for each condition set out in this Decision Statement at least 30 days prior to the start of drilling program. This schedule shall detail all activities planned to fulfill each condition set out in this Decision Statement and the commencement and estimated completion month(s) and year(s) for each of these activities.	CNOOC began meeting with the C-NLOPB on a regular basis, commencing in November 2019, to discuss the implementation schedule detailed in this document. Submissions to date were provided to the C-NLOPB on February 7, March 6, September 28 in 2020 and March 16, 2021.	N/A
	7.2	The Proponent shall submit to the Board a schedule outlining all activities required to carry out all phases of the Designated Project no later than 30 days prior to the start of the drilling program. The schedule shall indicate the commencement and estimated completion month(s) and year(s) and duration of each of these activities.	CNOOC provided the C-NLOPB with a schedule outlining project activities with the original OA submission. CNOOC has provided a list of all key project activities in section 2.3 of this report.	N/A
	7.3	The Proponent shall submit to the Board in writing an update to schedules referred to in conditions 7.1 and 7.2 every year no later than December 31, until completion of all activities referred to in each schedule.	CNOOC will provide an update in writing to the schedules referred to in 7.1 at the end of 2021 for activities related to Pelles A-71.	N/A
	7.4	The Proponent shall provide to the Board revised schedules if any change is made to the initial schedules referred to in condition 7.1 and 7.2 or to any subsequent update(s) referred to in condition 7.3, upon revision of the schedules.	CNOOC will provide an update to the CNLOPB for any changes made to the initial schedule referred to in 7.1 and 7.2. CNOOC has not had any material changes to the most recent schedule as submitted March 16th, 2021.	N/A
Record Keeping	8.1	The Proponent shall maintain all records required to demonstrate compliance with the conditions set out in this Decision Statement. The Proponent shall provide the aforementioned records to the Board or the Agency upon demand within a timeframe specified by the Board or the Agency.	CNOOC will maintain all records to demonstrate compliance with the conditions set out in this decision statement.	N/A



8.2	The Proponent shall retain all records referred to in condition 8.1 at a facility in Canada. The records shall be retained and made available for a minimum of five years after completion of the Designated Project, unless otherwise specified by the Board. The Proponent shall inform the Board of the location of the facility where records are retained and notify the Board and the Agency at least 30 days prior to any change to the location of the facility.	CNOOC will maintain all records to demonstrate compliance with the conditions set out in this decision statement as listed in 8.2.	N/A
8.3	The Proponent shall notify the Board and the Agency of any change to the contact information of the Proponent included in the Decision Statement.	CNOOC will update the C-NLOPB and the agency if there is any change to the companies contact information.	N/A

4.0 COMMUNICATIONS AND CONSULTATION

4.1 COMMUNICATIONS PLAN

CNOOC developed a Commercial Fisheries Communication Plan and an Indigenous Fisheries Communication Plan in consultation with the C-NLOPB, Commercial and Indigenous Fisheries prior to the commencement of operations. The plans were written to incorporate the requirements of Condition 5.1 of the Decision Statement.

4.2 PROJECT NOTIFICATIONS

The Commercial and Indigenous Fisheries Communications Plans outline communication protocols for operational updates during the project or in the event of an accident or malfunction. Below is a summary of the notifications that were made for the Pelles A-71 drilling campaign.

Table 3. CEAA Decision Statement Conditions Closure

Title	Date	Contents
Commercial Fisheries Update #1	March 12 th , 2021	Notification of Planned Drilling Operations
Indigenous Fisheries Update #1	March 17 th , 2021	Notification of Planned Drilling Operations and Notification of Website
Documentation Update	March 25 th , 2021	Notification of update to documentation on CNOOC's Website - Updated Spill Response Plan - Updated CEAA Conditions Implementation Schedule



Commercial / Indigenous Fisheries Update #2	April 15 th , 2021	CNOOC Drilling Operations Update
Commercial / Indigenous Fisheries Update #3	May 14 th , 2021	CNOOC Drilling Operations Update
Documentation Update	June 1 st , 2021	Notification of update to documentation on CNOOC's Website - CNOOC Exploration Well Abandonment Plan
Commercial / Indigenous Fisheries Update #4	June 14 th , 2021	CNOOC Drilling Operations Update
Commercial / Indigenous Fisheries Update #5	July 8 th , 2021	CNOOC Drilling Operations Update – Completion of Drilling Operations

4.3 INTERNET SITE

CNOOC developed an exploration website in accordance with Condition 2.9 of the Decision Statement. The website can be found at the following address:

https://cnoocinternational.com/en/operations/americas/canada/atlantic-canada

CNOOC will continue to publish the documentation identified in Condition 2.9 as it becomes finalized. A notification will be sent to stakeholders within 48 hours of posting on the external website.

4.4 ENGAGEMENT AND CONSULTATION

The following table is a high-level summary of the engagements and consultations that were completed by CNOOC as it relates to the Pelles A-71 drilling program and the 2021 Decision Statement conditions.

For the purpose of the below table:

DFO - Fisheries and Oceans Canada

ECCC - Environment and Climate Change Canada

CWS – Environment and Climate Change Canada – Canadian Wildlife Services

FFAW-Infor - Fish Food and Allied Workers

AGC - Atlantic Groundfish Council

ASP - Association of Seafood Producers

OCI - Ocean Choice International



Table 4. Engagement and Consultation Summary

CEAA				
Condition				Record of
#	Condition Statement	Date:	Group:	Consultation
3.6	The Proponent shall develop and conduct, in consultation with Fisheries and Oceans Canada and the Board, a seabed investigation survey to confirm the presence or absence of any aggregations of habitat-forming corals or sponges or any other environmentally sensitive features prior to drilling a well. The Proponent shall retain the services of an individual that is qualified to operate the equipment used to conduct the survey(s). Survey transect length and pattern around well sites shall be based on applicable drill cutting dispersion model results. Transects around anchor sites should extend at least 50 metres from each structure.	31-May-19	DFO / C- NLOPB	Presented a proposed layout for the Site survey to be utilized for the site surveys on EL1144. Updates were made to planned survey layout. Additional transect lines were added east and west of the drill cuttings plume model.
3.9	The Proponent shall develop, in consultation with Fisheries and Oceans Canada and the Board, a marine mammal monitoring plan that shall be submitted to the Board at least 30 days prior to the commencement of any vertical seismic survey. The Proponent shall implement the plan during the conduct of vertical seismic surveys. As part of the plan, the Proponent shall:	23-Nov-20	DFO / C- NLOPB	CNOOC emails Marine Mammal Monitoring plan for review by the C-NLOPB / DFO. Clarifications provided and documentation was updated based on feedback with the following changes: - List of all species in project area added - Identifying conditions Passive Accoustic Monitoring would be completed - Range of PAM equipment added - Definitions added
		4-Feb-21	DFO / C- NLOPB	CNOOC resubmits plan incorporating feedback from C-NLOPB and DFO.



3.12.2	for the first well in each exploration licence, and for any well where drilling is undertaken in an area determined by seabed investigation surveys to be sensitive benthic habitat, and for any well located within a special area designated as such due to the presence of sensitive coral and sponge species, or a location near a special area where drill cuttings dispersion modelling predicts that drill cuttings deposition may have adverse effects, develop and implement, in consultation with Fisheries and Oceans Canada and the Board, follow-up requirements to verify the accuracy of the	18-Dec-20	DFO / C- NLOPB	CNOOC submits a drill cuttings monitoring plan for review with the C-NLOPB / DFO.
	environmental assessment and effectiveness of mitigation measures as they pertain to the effects of drill cuttings discharges on benthic habitat. Follow-up shall	11-Feb-21 3-Mar-21	DFO / C- NLOPB DFO / C- NLOPB	Feedback provided to CNOOC for drill cuttings monitoring plan CNOOC hosts a meeting to discuss
	include:		11201 5	feedback from C- NLOPB / DFO
		5-Mar-21	DFO / C- NLOPB	CNOOC submits updated drill cuttings monitoring plan with the following updates: - Revision to background information - Clarification statements added to the document - Addition of graduated pegs at various locations in the drilling footprint
3.12.3	for the first well in each exploration license, develop and implement, in consultation with Fisheries and Oceans Canada and the Board, follow-up requirements to verify the accuracy of the environmental assessment as it pertains to underwater sound levels. As part of the development of these follow-up requirements, the Proponent shall determine how underwater sound levels shall be monitored through field measurement by the Proponent during the drilling	5-Mar-20	DFO/C- NLOPB	CNOOC email submission of the Underwater Sound Monitoring Plan for review



program and shall provide that information to the Board prior to the start of the drilling program.	11-Mar-20	DFO/C- NLOPB	Feedback provided to CNOOC for the Underwater Sound Monitoring Plan
	13-Mar-20	DFO/C- NLOPB	Revised Underwater Sound Monitoring Plan submitted to the C- NLOPB with the following changes: - Overview Added - Rationale for locations added - Equipment Description added - Analysis Details added - Reporting section updated - Data Handling and Storage added
	8-Feb-21	DFO/C- NLOPB	CNOOC revised the underwater sound monitoring plan and resubmitted to DFO /C-NLOPB. - Removed Reference for incorporating other operators data (none in field) - Revised rig reference and date of execution
	5-Mar-21	DFO/C- NLOPB	CNOOC revised the underwater sound monitoring plan and resubmitted to DFO /C-NLOPB Relocation of underwater sound monitoring moorings for an improved assessment of the extent of underwater sound zone



4.3	The Proponent shall develop, prior to the start of the drilling program and in consultation with Environment and Climate Change Canada and the Board, follow-up requirements, pursuant to condition 2.5, to verify the accuracy of the environmental assessment as it pertains to migratory birds and to determine the effectiveness of the mitigation measures implemented by the Proponent to avoid harm to	25-Nov-20	CWS / C- NLOPB	CNOOC submission of the Seabird Follow Up Program
	migratory birds, their eggs and nests, including the mitigation measures used to comply with conditions 4.1 and 4.2.	22-Dec-20	CWS / C- NLOPB	C-NLOPB / CWS Feedback provided on the Seabird Follow Up Program
	CONTRIBUTIS 4. F AND 4.2.	3-Feb-21	CWS / C- NLOPB	CNOOC resubmission of follow up program with the following updates: - Updates to mitigation and follow up - Update program methodology - Baseline information submitted - Addition of mitigative measures
5.1	The Proponent shall develop and implement a Fisheries Communication Plan in consultation with the Board, Indigenous groups and commercial fishers. The Proponent shall develop the Fisheries Communication Plan prior to drilling and implement it for the	29-Jan-20	C-NLOPB, FFAW- Infor, One Ocean, OCI, ASP and AGC	CNOOC emailed the draft copy of Commercial Fisheries Communication Plan for review and comment.
	duration of the drilling program. The Proponent shall include in the Fisheries Communications Plan:	6-Feb-20	Indigenous Groups	CNOOC emailed the draft copy of the Indigenous Fisheries Communication Plan for review and comment.
		13-Mar-20	C-NLOPB, FFAW- Infor, One Ocean, OCI, ASP and AGC	Final copy of Commercial Fisheries Communication Plan issued. Update incorporated the crab fishing zones into the project map.



		6-Mar-20	Indigenous Groups	Final copy of the Indigenous Fisheries Communication plan issued. Update incorporated an emergency communication flow chart.
6.2	The Proponent shall develop, in consultation with the Board and Environment and Climate Change Canada, and implement for the duration of the drilling program, a physical environment monitoring program, in accordance with the Newfoundland Offshore Petroleum Drilling and Production Regulations that meets or exceeds the requirements of the Offshore Physical Environmental Guidelines (September 2008). The physical environment monitoring program shall be submitted to the Board for approval prior to commencing drilling.	4-Mar-21	ECCC / C- NLOPB	cnooc Email submission of the Physical Environment Monitoring Plan for review. No updates requested to document after review.
6.7	The Proponent shall prepare a Spill Response Plan and provide a draft of the plan to Indigenous groups for comment, taking into consideration these comments prior to submitting the plan to the Board for acceptance. The plan shall be submitted to the Board for	5-Feb-21	Indigenous Groups	CNOOC emailed the Offshore Spill Response Plan to Indigenous Groups for comment.
	acceptance prior to drilling.	13-Mar-20	Indigenous Groups	CNOOC emailed the final copy of the Offshore Spill Response Plan to Indigenous Groups. No feedback was provided.

5.0 FISH AND FISH HABITAT

CNOOC implemented mitigations to aid in the protection of fish and fish habitat. These mitigations included conducting a pre-drilling coral and sponge survey, monitoring drill cuttings, discharge monitoring and underwater sound monitoring.

5.1 PRE-DRILLING AND POST DRILLING SURVEYS

CNOOC conducted pre-drilling underwater visual surveys at planned well sites in Exploration Licence (EL) 1144 in the Flemish Pass, including the Pelles A-71 site (Wood 2020). The survey was designed to determine locations of aggregations of coldwater corals and sponges and was



developed in consultation with the Canadian Newfoundland and Labrador Offshore Petroleum Board (C-NLOPB) and Fisheries and Oceans Canada (DFO) (Wood 2019a). The location of the planned Pelles A-71 well site was revised to maintain 100 m separation from drilling activities and C-NLOPB defined coral colonies (Wood 2019b). Fish and fish habitat were characterized for the area including details on seabed substrate and coral, sponge, fish, and invertebrate presence and density (Wood 2020). The seabed video survey was conducted with an ROV at the Pelles A-71 site and was assessed against C-NLOPB guidance on coral colonies. The guidance states that no drilling activities should occur within 100-m of a coral colony, defined as *Lophelia pertusa* coral or a grouping of five or more corals above 30 cm in height/width in a 10 m x 10 m area.

After completion of drilling activities at Pelles A-71, an ROV survey of similar design to that conducted in 2020 was completed.

5.2 CORAL AND SPONGE SURVEY

The following sections describe the findings between pre- and post-drilling surveys as they relate to Corals, Sponges, Invertebrates and Fish.

5.2.1 Corals

Soft corals, branching corals, and sea pens were the most abundant coral groups overall, and all showed similar declines between the pre- and post-drilling survey. Soft corals and sea pens significantly differed between surveys, with lower values in the post-drilling survey. The interaction term was also significant for both groups, indicating uneven changes between the two surveys across the areas. For all the other coral groups, very few individuals were recorded overall with minimal changes between the two surveys. Declines for most groups were steepest within the grid lines area, with no coral present within the visible deposition area near the wellhead (within ~50 m). This is to be expected, as corals are sessile or only capable of slow short-distance movements. Many corals were still present and in good condition within the transition zone, and within the cluster and fleck areas to the south. Overall, corals declined or remained similar throughout the Pelles A-71 area which is within the predicted effects outlined in the Environmental Assessment (Nexen 2018) that indicated potential effects throughout the drill cuttings dispersion area.

5.2.2 Sponges

Sponges throughout the Pelles A-71 area had low densities overall in both the pre- and post-drilling survey, and changes were less consistent than those observed for corals. Some sponge groups showed declines in the grid lines area, and other groups showed increases from the pre-drilling survey. As sponges are sessile and slow growing, these are not likely new individuals, but differences in ROV path travelled, the use of standard definition video for the pre-drilling survey and high definition for the post-drilling also allowed for more accurate identification, and therefore potential differences between surveys. Similar to corals however, no sponges were recorded within the visible deposition area though many were present in the transition area with little to no surface veneers.



5.2.3 Invertebrates

For invertebrates, a similar trend to corals was observed with general declines in density throughout. Echinoderms significantly differed between surveys, with lower densities in the post-drilling survey, and had a significant interaction term as well. Few invertebrates were noted within the visible deposition area near the wellhead, though some echinoderms were noted near the edges. While many invertebrates were still present within the transition zone, cerianthid anemones (cnidarians) were absent and were a reliable indication of the presence of drill cuttings. As they inhabit small burrows within the substrate, this particular group of invertebrates may be vulnerable to any amount of cuttings deposition. Evidence of benthic invertebrates in the form of burrows, divots, and tracks were recorded throughout the cuttings deposition area.

5.2.4 Fish

Fish were present throughout Pelles A-71 at low densities, with benthivores being the most numerous and diverse fish functional group. A general decline across all three areas was noted for benthivores, which may be due to lack of prey as invertebrates declined throughout. Small numbers of Greenland halibut (piscivore) and lanternfish (planktivore) were recorded throughout, including near the well centre, both during the pre- and post-drilling survey. However, unidentified fish increased in density in the transect area from the pre-drilling survey. This change is due to a small species of fish residing in high densities within small divots in the sediment throughout the transect area. Due to their small size and few identifying characteristics, these fish were not identified as part of this survey, though may be juveniles of other fish species recorded. Their presence is likely seasonal in nature.

5.3 DRILL CUTTINGS MONITORING

The drill cuttings monitoring follow up program was designed in consultation with DFO and the C-NLOPB to verify the accuracy of the predictions made during the environmental assessment as it pertains to fish and fish habitat and satisfy commitments in the Decision Statement Conditions 3.12, 3.12.1 and 3.12.2.

The complete findings of this report are detailed in the document "2021 Drilling Discharges Follow-up Monitoring Program" prepared by WOOD but have been summarized in sections 5.2 and 5.3 of this document

5.3.1 Synthetic-Based Fluid on Cuttings

CNOOC had a performance target for synthetic-based fluid on cuttings (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 3.84g/100g 48 hour cumulative (rolling) massed average SOC wet being the highest level reached (Figure 1) (CNOOC 2021). CNOOC reported the discharged SOC results to the C-NLOPB on a monthly basis.



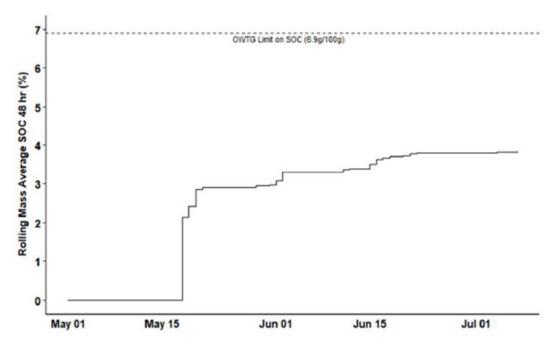


Figure 1. Synthetic-on-Cuttings (SOC) concentration (g of oil per 100 g wet solids, or %) discharged to sea after treatment aboard the Stena Forth from May 1st, 2021 to July 7th, 2021.

5.3.2 Drill Cuttings Modelling

For the drill cuttings extent and thickness, the use of several methodologies allowed for a better overall understanding of the dispersal area and the range of thicknesses. The use of external markers on the wellhead prior to jetting allowed for measurement of the deepest burial depth (1.5 m). In combination with the deposition poles showing burial of 0.15 m to 0.20 m roughly 50 m from the wellhead, the area of heaviest deposition could be delineated. Visual cues of the extent of cuttings were clearly able to identify areas of heavy deposition, and the general transition zone between cuttings and existing, natural substrate. While the identification of the transition zone was challenging, the use of visual assessment worked well for cuttings identification. The deposition of cuttings was lower than the maximum modelled deposition depths that ranged from 2.71-2.87 m (Water Based Mud) within 10 m of the wellhead and 0.21-0.26 m (Water Based Mud) within 10-100 m from the wellhead.

The penetration depths were less useful overall for measurement of drill cuttings thickness. As the baseline substrate in the Flemish Pass is predominantly mud, additional drilling mud deposited on top of fine substrate does not allow for easy differentiation. In hard compact or gravelly areas with little or minimum penetration during baseline measurement, this method it typically more useful. The majority of post-drilling depth measurements were greater than the length of the push ruler, even in areas with no predicted or visible cuttings. As the values were highly variable and did not consistently vary with distance from the wellhead or agree with the modelled drill cuttings footprint, it is assumed that these results are from small-scale variability of the exact location of the penetration test or potentially variability in ROV operator and not related to drill cuttings accumulation.



Deposition poles worked well for the measurement of drill cuttings. Poles at reference stations did not visibly sink into the seafloor and a background veneer of sediment was recorded at these stations. Poles were not difficult to find, and the attached ruler and zipties were easy to read. None of the poles used in this survey in the transect area appeared to have cuttings burial, though some did have flecks present.

The extent of drill cuttings was determined through change in surficial substrate and visual observations of drill cuttings. The main difference in surficial sediment between the pre- and post-survey was additional fines near and south of the well center, which is primarily cuttings. While minor changes to areas of hard substrate were recorded, fine substrate remained between 85% to 100% of the surficial substrate at this site.

Bioturbation and newly formed divots were already recorded throughout the visible deposition area, and a thin layer of background sedimentation appeared to already be overlaying the cuttings area. A burial area of drill cuttings was predicted to extend throughout the grid and transect areas. However, the areas of drill cuttings accumulations (e.g., visible deposition, transition zone) was smaller than predicted. As indicated by the model, Synthetic Based Mud drill cuttings that were discharged high in the water column were predicted to drift up to 2 km from the wellsite, but not form any burial accumulations. This was recorded in the follow-up monitoring with flecks of drill cuttings observed to the extent of the survey area to the south, but no burial accumulations observed.

5.3.3 Summary and Conclusions

The following summarizes the follow-up monitoring results associated with drill cuttings monitoring.

The Offshore Waste Treatment Guidelines specifies that SOC levels should not exceed 6.9 g/100 g oil on wet solids. As detailed in Section 3.1, the highest reported level from the drilling unit was 3.84 g/100 g oil on wet solids. Therefore, the discharges meet the performance targets set out in the OWTG and addresses Condition 3.12.1 of the decision statement.

Drill cuttings were predicted to be mostly distributed SSW from the wellhead with the majority of cuttings deposited within 500 m, with some SBM cuttings out to 2 km. Cuttings deposition extent and thickness was evaluated through a combination of visual assessments, depth penetration measurements, comparison to subsea infrastructure, and deposition poles. Based on these combined survey methodologies, the observed accumulated drill cuttings footprint was limited to within 100 m from the wellhead with drifts of low quantities of drill cuttings (flecks and clusters approximately 625 m from the wellhead (southern grid lines and transect areas). Overall, the observed drill cuttings deposition had a lower extent and lower thickness relative to model predictions. As identified in section 5.3.2, model results were compared to *in situ* results and found that cuttings were both more localized and lower thicknesses (accumulations) relative to the model's predictions in the EIS.

Smothering was predicted to be within 500 m of the drill centre where the majority of drill cuttings deposition was predicted to occur. Within the drill cuttings footprint 100 m from the wellhead, no sessile organisms were recorded on survey transects though some invertebrates and fish were present. No smothering or burial is likely outside this footprint, as the recorded flecks and clusters are not large enough to bury organisms. Overall, the density of fauna in the



post-drilling survey is lower than that observed in the pre-drilling survey. This is likely from a combination of smothering and burial, and potential avoidance of the area by mobile fauna.

5.4 DISCHARGES

CNOOC treated all discharges into the marine environment in compliance with the approved Environmental Protection Plan that was drafted in accordance with the Offshore Waste Treatment Guidelines. Monthly compliance monitoring reports were submitted to the C-NLOPB for regulated waste streams.

5.5 UNDERWATER SOUND MONITORING

CNOOC developed and implemented an underwater sound monitoring program in consultation with DFO and the C-NLOPB. The plan was developed to satisfy condition 3.12.3 of the Decision Statement. The plan was implemented by WOOD/JASCO during Pelles A-71 operations in order to verify the accuracy of underwater sound levels as predicted in the EIS.

The complete findings of this report are detailed in the document "Flemish Pass Acoustic Monitoring: Ambient Characterization and Marine Mammal Monitoring near a Mobile Offshore Drilling Unit" prepared by Jasco but has been summarized in sections 5.5.1 and 5.5.2 of this document.

5.5.1 Program Description

JASCO designed an acoustic monitoring program, comprising two autonomous multi-channel acoustic recorders, to compare actual acoustic footprint distances to the predictions, and to measure baseline sound levels, marine mammal presence and changes to the baseline resulting from the Pelles drilling program. Wood deployed one recorder 1km from the Stena Forth, at approximately mid-water depth, and deployed the second recorder 40km North-East of Stena Forth, in ~650m of water, at a depth of ~100m from the sea surface. These depths were expected to experience the longest propagation ranges. The recorders were deployed from mid-April 2021 until early July 2021.

The recorders collected acoustic data continuously at a sampling rate of 128 kHz, using GeoSpectrum M36 hydrophones and a pre-amplifier. The hydrophone / AMAR / pre-amplifier systems returned the data necessary to perform a complete analysis of all radiated sound from the drilling activity and allowed detection of most types of marine mammal vocalizations, with the exception are dwarf and pygmy sperm whales. Continuous sampling ensured that the computed daily sound exposure level (SEL) missed no energy.

JASCO calibrated the recorders three times (in their warehouse, in the field prior to deployment and in the field following recovery), to verify the sensitivity of each integrated system (i.e., the hydrophone, pre-amplifier and AMAR). JASCO verified infield, pre-deployment calibrations against warehouse measurements for consistency (i.e., <0.5 dB difference) before analyzing the data. Post-retrieval calibration confirmed no loss of sensitivity during the deployment.



5.5.2 Findings

Sound levels recorded at 1km from the Stena Forth exceeded background levels but were lower than predicted during pre-campaign modelling. The median sound pressure level from 29 April to 18 June 2021 was 117.5 dB re 1 μ Pa², compared to the modeled level of near 140 dB re 1 μ Pa².

At 40 km from the Stena Forth sound levels from the drill ship were difficult to detect. The median broadband sound pressure level was 109.7 dB re 1 μ Pa². On ~20 June a 3-D seismic survey commenced near the 40 km site, which increased the median sound pressure level at the 40km site to 134.7 dB re 1 μ Pa² (and to 130.6 dB re 1 μ Pa² at the 1 km site).

JASCO recorded no exceedance of the threshold for permanent threshold shifts at the 1km site, and no threshold exceedances for temporary hearing threshold shifts in low-frequency cetaceans. JASCO recorded threshold exceedances for temporary threshold shift criteria for high frequency cetaceans, at the 1km recorder, during the first fifteen days of drilling, during the last three days of drilling, and on two occasions in between. JASCO attributed these exceedances to a high frequency source: perhaps a USBL pinger or acoustic modem. The exceedances were on the order of 3-5 dB per day. An animal would need to remain at close proximity to such a source for many hours before experiencing a temporary hearing threshold shift, and research suggests that animals would avoid the source rather than incur an actual threshold shift. The 3-D seismic survey referred to herein caused TTS threshold exceedances at the 40km site on 17 days for low frequency cetaceans, and on 13 days for high frequency cetaceans.

6.0 MARINE MAMMAL AND SEA TURTLES

CNOOC developed and implemented a marine mammal and sea turtle mitigation plan for VSP in consultation with DFO and the C-NLOPB. The plan was developed to satisfy conditions 3.8 and 3.9 of the Decision Statement. The plan was implemented by WOOD/JASCO during Pelles A-71.

Full details of the completed VSP Activities can be found in the project report "Flemish Pass Exploration Drilling Project, Marine Mammal and Sea Turtle Monitoring and Mitigation Report" prepared by WOOD.

The scope of work included monitoring for marine mammals and sea turtles inside the 500-metre radius safety zone around the seismic source during VSP activities by visual observation and passive acoustic monitoring. Mitigation protocols were implemented by qualified marine mammal observers (MMO) and passive acoustic monitors (PAM). VSP was conducted from the *Stena Forth* at the Pelles A-71 well site between June 23, 2021 and June 24, 2021. All marine mammal and sea turtle mitigation was conducted aboard the supply vessel, *MV Siem Pilot*. The VSP program lasted 8.5 hours, during which time 3 marine mammals were detected by the PAM operator outside of the 500m safety zone. No delays or shutdowns were required during the program. A summary of Marine mammal and sea turtle sightings during PAM operations during the exploration project are listed in Table 5.

In addition to VSP activities, CNOOC is required to report injured, dead or stranded marine mammals or sea turtles. There were no sightings of injured, dead or stranded species throughout Pelles A-71 operations.



Table 5. Marine Mammal and Sea Turtle Sighting during VSP Operations

Species	Date	Number of Sightings	Number of Individuals	Range of animal to VSP (metres)	Mitigation Required	Notes
PAM Ge	ar Wet Test					
FW	18-06-21	3	3	VSP not active	NONE	Observed during PAM Gear Wet Test
UW	18-06-21	1	1	VSP not active	NONE	Observed during PAM Gear Wet Test
VSP Ope	rations		31			***
SP	24-06-21	2	1-3	>1000	NONE	Continuous clicks during VSP firing
UD	24-06-21	1	>1	>1000	NONE	Very faint

7.0 MIGRATORY BIRDS

CNOOC conducted seabird observations and monitoring in accordance with the requirements of the "Seabird Observation and Monitoring Follow Up Program" that was developed in consultation with Environment and Climate Change Canada and the C-NLOPB as required by Condition 4.3 of the Decision Statement.

7.1 SEABIRD OBSERVATIONS

PAL Aerospace conducted all seabird observations on the Pelles A-71 well site from the MODU. During the operational period, a total of 804 seabird observation entries recorded 23,685 seabirds. Observations were conducted between April 28th and July 7th, 2021 and completed in accordance with CNOOC's approved "Seabird Observation and Monitoring Procedural Aid". Table 6 details a summary of the observations completed during the drilling program. CNOOC has retained a copy of all raw data associated with seabird observations.



Table 6. Seabird Observations Summary

Species	Number
Black-legged Kittiwake	336
Common Murre	10
Dovekie	20
Glaucous Gull	1
Great Black-backed Gull	26
Great Shearwater	260
Herring Gull	74
Iceland Gull	2
Leach's Storm-Petrel	10
Lesser Black-backed Gull	6
Manx Shearwater	1
Northern Fulmar	22495
Northern Gannet	3
Pomarine Jaeger	1
Sooty Shearwater	2
South Polar Skua	2
Unknown Gull	430
Unknown Murre	1
Unknown Shearwater	2
Unknown Skua	2
Unknown Tern	1
Total	23,685

7.2 STRANDED SEABIRD SEARCHES

Daily stranded seabird surveys were conducted daily at dawn during the Pelles A-71 exploration drilling program that included the Stena Forth drillship and the Siem Pilot, Maersk Clipper, Maersk Mobiliser and Skandi Vinland support vessels. Table 7 details stranded seabird searches completed during the program. Seabirds were handled in accordance with CNOOC's approved "Seabird Capture and Handling Procedural Aid". There was a total of 22 birds found; 4 carcasses disposed of at sea, 4 carcasses sent ashore; 1 live seabird that died in transit to shore and 13 live seabirds released. CNOOC has retained a copy of all raw data associated with stranded seabird searches.



Table 7. Summary of Stranded Seabirds

Date (yyyy/mm/dd)	Location of Stranding (Lat/Long, or Name)	Bird Species	TOTAL # stranded birds	Found Dead			Captured Alive					
				# Oiled**	Fate		Oiled**			Not oiled		
					# disposed of at sea	# sent ashore*	# died	# released alive	# sent ashore*	# died	# released alive	# sent ashore*
2021-05-12	Stena Forth Pelles A-71	WTSP	1									1
2021-05-14	Stena Forth Pelles A-71	WTSP	1		1							
2021-05-17	Stena Forth Pelles A-71	WTSP	1		1							
2021-06-01	Stena Forth Pelles A-71	LESP	1								1	
2021-06-08	Stena Forth Pelles A-71	LESP	1			1						
	Stena Forth Pelles A-71	UNSP	1		1							
2021-06-11	Stena Forth Pelles A-71	LESP	1			1						
2021-06-20	Mobiliser Pelles A-71	LESP	5			1					4	
2021-06-21	Stena Forth Pelles A-71	LESP	1								1	
	Stena Forth Pelles A-71	LESP	1								1	
2021-06-22	Stena Forth Pelles A-71	OSFL	1		1							
2021/06/28	Stena Forth Pelles A-71	LESP	1			1						
2021/06/29	Stena Forth Pelles A-71	LESP	1								1	
2021/07/01	Stena Forth Pelles A-71	LESP	1								1	
	Stena Forth Pelles A-71	LESP	1								1	
2021/07/03	Stena Forth Pelles A-71	LESP	2								2	
2021/07/05	Stena Forth Pelles A-71	LESP	1								1	
			22		4	4					13	1

7.3 FINDINGS

The EIS assessed the potential effects of marine and migratory birds which are known, or likely to be found, within the project area and may be affected by planned project components and activities.

The EIS highlighted that the primary mechanisms of interaction that may have negative effects on marine and migratory birds, included platform and vessel attraction associated with lighting and increased foraging opportunities, and potential hydrocarbon sheening. While these interactions may have led to increased potential for mortality or injury of individuals, the disturbances (and thus, effects) were anticipated to be negligible to minor, due to the localized nature of Project activities. With 9 bird mortalities for the entire duration of the exploration program at Pelles A-71 it is unlikely that the project had population-level effects within the project area. The mitigative measures that are currently in place have been proven effective and no additional mitigations are recommended at this time.



8.0 ADDITIONAL MITIGATIONS

8.1 EMERGENCY / SPILL RESPONSE

CNOOC developed and implemented a number of operating procedures, emergency response and contingency plans in planning the Pelles A-71 operations. These included but are not limited to: Helicopter Operations Procedural Aid, Atlantic Canada Exploration Drilling Safety Plan, Marine Operations Manual, Physical Environment Monitoring Protocol, Ice Management Plan, Adverse Weather Protocol, Emergency Response Procedural Aid, Incident Command System Initial Emergency Response Procedure, Incident Command System Expanded Response Procedure, Offshore Spill Response Plan, Wildlife Response Plan, Source Control Plan and Source Control Contingency Plan. These plans were submitted to the C-NLOPB as part of the comprehensive OA package submitted for Pelles A-71 operations.

On March 4th. 2020 an oil spill response tabletop exercise, "Exercise Jolsen" was completed in accordance with Condition 6.9 of the Decision Statement. A copy of the exercise report was sent to the C-NLOPB on March 9th, 2020 and to Indigenous Groups on March 13th, 2020. Minor updates were made to the Offshore Spill Response Plan following this exercise.

CNOOC developed a Spill Impact Mitigation Assessment (SIMA) as required by Condition 6.11 of the Decision Statement which was provided to the C-NLOPB on December 3, 2019. The SIMA was reviewed by the National Environmental Emergencies Centre's Environmental Emergencies Science Table. Feedback on the SIMA was received by CNOOC from the C-NLOPB on April 2nd, 2020. Feedback was incorporated by CNOOC and resubmitted to the C-NLOPB on July 7th, 2020. The final SIMA is now posted on CNOOC's External Website.

While drilling the Pelles A-71 well there were no accident or malfunctions that required activation of the Offshore Spill Response Plan.

8.2 ICE MANAGEMENT

An Ice Management Plan was prepared by Provincial Aerospace Limited (PAL) Ice and Environmental Services for CNOOC. The plan outlined procedures that prevent hazardous ice from reaching the MODU and address both icebergs and sea ice. CNOOC submitted an Ice Management Plan as a part of the OA submission that was approved by the C-NLOPB.



9.0 REFERENCES

CNOOC (2021). Atlantic Canada Flemish Pass Exploration Drilling Project: Pelles A-71 Environmental Report.

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