

## Well Control Planning

CNOOC International Ltd. has contracted the Stena Forth drillship to drill an exploratory well on license 1144 in the Flemish Pass basin. This well, located 245 nautical miles from St. John's, will be drilled at a water depth of 1163 m to evaluate the potential of oil bearing rock formations. The anticipated duration of this well is 80 to 100 days, depending on evaluation of formations. Drilling is expected to commence between April and June 2021.



*Stena Forth Drillship*

### Well Integrity

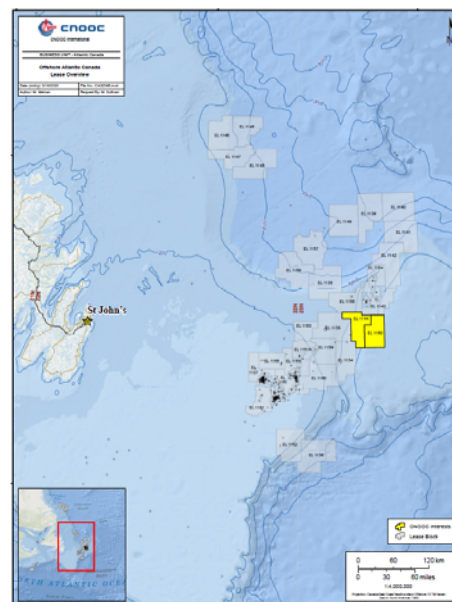
Well integrity focuses on preventing the uncontrolled release of formation fluids throughout the life of a well. To ensure well integrity, well barrier envelopes are maintained during operations.

Well barrier envelopes consist of one, or several, well barrier elements designed to prevent wellbore influxes of either fluids or gases from flowing unintentionally from the formation.

The primary well barrier envelop for all planned operations is a stable column of drilling fluid with a density sufficient to overbalance the formation pressures. Frequent mud property checks ensure the planned properties are maintained and verified to maintain the overbalance.

The secondary barrier envelope is formed by the casing, cement, wellhead, and blow-out preventer (BOP). Each barrier element (e.g., cement, plugs, packers, valves, BOPs, etc.) is verified to confirm that the required integrity of the barrier envelope is in place for the operation being performed.

This well integrity and barrier envelop philosophy is consistent with C-NLOPB regulation and industry standards.



*Exploration Program Drill Location*

## CA-EXP-AC-DWD-RG-00015-SN-01, Rev 1

### Well Control

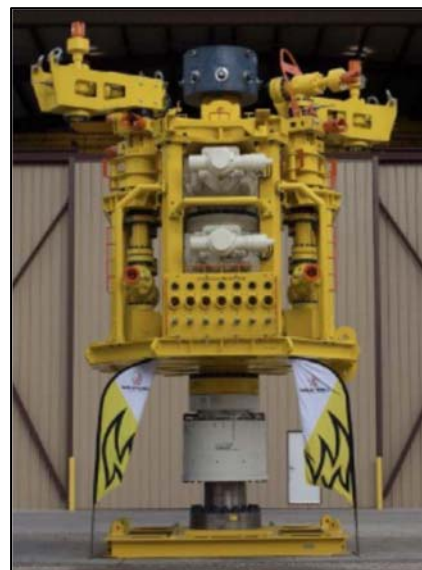
Well control focuses on the prevention, early detection and safe handling of wellbore influxes should they occur. The intent throughout this exploration program is always to maintain control of the well by employing the strategies described in Stena's Well Control Manual and CNOOC's Standard for Well Control, with the two documents being bridged by the Well Control Bridging Document and in compliance with Canada-Newfoundland Offshore Petroleum Board (C-NLOPB) Regulations. These documents provide information which empowers the drilling crew to focus on maintaining primary well control throughout all planned operations, and to safely manage any wellbore influxes that may occur.

Detection and control of a wellbore influx is a team effort by all members of the drilling crew. Each member shall be trained and familiar with their duties so that any well control operation can proceed safely, smoothly and efficiently. Stena and CNOOC ensure that all personnel are trained to standards in accordance with company and regulatory guidelines. Drills are carried out in the most realistic manner possible and, where practical, there shall be no difference between drills and actual operations that would be taken in the case of an event. Well control drills will be conducted as per Stena and CNOOC standards and in accordance with Canadian Association of Petroleum Producers (CAPP) Standard Practice for Training and Qualifications of Personnel (TQSP).

### Well Control Strategies

In the event of a loss of primary well control, the wellbore influx is managed through a series of mitigation processes, which involves securing the well and circulating out the influx while maintaining containment and control of wellbore pressure and fluids. The primary means to shut-in the well will be using existing well control equipment (BOPs). The remotely operated vehicle (ROV) can also be deployed to supply additional closing power to the BOPs. The ultimate key to the success of these measures is early detection, which is achieved through active monitoring by the drilling crew and understanding what the well is doing at all times. All personnel involved with well monitoring are provided training and competency programs which include wellbore influx detection and response.

To prepare for the unlikely event of loss of secondary well control, the Incident Management Team (IMT) is responsible for stewarding equipment and procedures for intervention through: site survey, debris clearance, existing BOP intervention, subsea dispersant application, capping stack installation, and well shut-in procedures. If in the event it's necessary, the capping strategy involves attaching a capping stack onto the BOP or wellhead to control and stop the discharge of hydrocarbons from the well if the BOP is not functional. Following the capping operation, the drilling of a relief well may be necessary to intercept the existing wellbore and permanently seal the well.



*Capping Stack*