

OVERVIEW

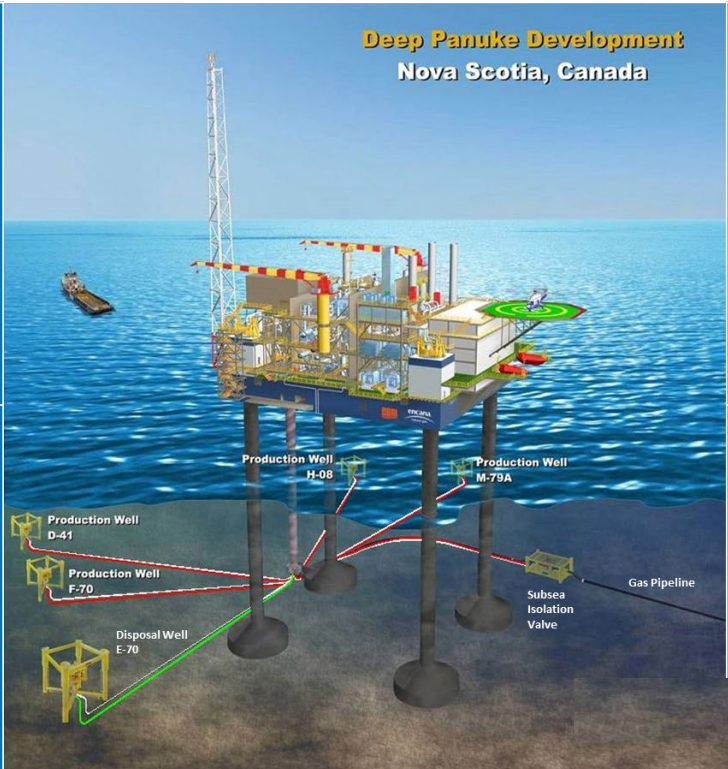
Ovintiv Canada ULC (formerly Encana Corporation) is the owner and operator of the Deep Panuke natural gas development, located in the marine environment approximately 175 kilometres offshore Nova Scotia. The development includes facilities required to produce natural gas from the Deep Panuke field, such as the offshore production platform, subsea wells, flowlines, control umbilicals and protection structures for subsea equipment. Natural gas was processed offshore and transported via a subsea pipeline to shore near Goldboro, Nova Scotia for further transport to markets using the Maritimes & Northeast Pipeline. Production from Deep Panuke permanently ceased on May 7, 2018 and the work required for decommissioning activities is underway.

DECOMMISSIONING PROCESS

The decommissioning of the Deep Panuke development involves the following activities:

- Decommissioning of the offshore production platform, subsea structures, flowlines, umbilicals, gas pipeline, and onshore facilities
- Well plugging and abandonment and subsea structure removal
- Offshore platform removal and final field survey

Deep Panuke Development Nova Scotia, Canada	
Wells <ul style="list-style-type: none"> Plug and abandon four production wells Plug and abandon one disposal well Remove subsea production trees 	Gas Pipeline <ul style="list-style-type: none"> Flush and clean gas pipeline Remove subsea isolation valve Remove above ground onshore facilities Abandon gas pipeline in place
Subsea Facilities <ul style="list-style-type: none"> Flush and clean flowlines Remove wellhead protection structures Disconnect flowlines and umbilicals; abandon in place 	Production Platform <ul style="list-style-type: none"> Flush and clean Remove



FLOWLINE AND UMBILICAL DISCONNECTS

Between March and May 2020, Ovintiv has completed the disconnection of all subsea flowlines and umbilicals at the wells and at the production platform. The work was conducted using a remotely operated vehicle from the support vessel Atlantic Condor.

Flowlines and umbilicals (which are buried approximately one meter deep) and the end spools (covered by concrete mattresses and/or tunnels) will be abandoned in place. Sections of flowline and umbilical connected to the wells and production platform were recovered and taken to shore for appropriate recycling or disposal.



Recovered Flowline Section by the Production Platform

WELL PLUG AND ABANDONMENT PROGRAM

The Deep Panuke well plug and abandonment program is currently underway to permanently plug and abandon the four Deep Panuke production wells and one disposal well. The program is conducted with the following rig and vessels (see photos below):

- Noble Regina Allen mobile offshore drilling unit
- three support vessels:
 - Atlantic Tern
 - Atlantic Osprey
 - Siem Commander



**Noble Regina Allen in Halifax Harbour (left); Atlantic Osprey (top right);
Siem Commander (bottom right)**

Well plug and abandonment activities started in February and have been completed at two of the five wells to date. Well plug and abandonment operations are expected to last approximately six months in total.

Each well will be abandoned in compliance with applicable regulatory requirements by installing a series of downhole mechanical and cement plugs as permanent barriers (between approximately 400 m and 1,000 m of total cement plug length depending on the wells). The producing (or disposal) zones will be isolated from other formations, and additional isolation plugs will be installed where necessary. The well subsea trees (each weighing approximately 41 tonnes) will be recovered for potential re-use. All wellhead piping will be cut below the seabed to ensure that there are no residual snagging hazards.



**Noble Regina Allen Being Towed to the Well
Closest to the Production Platform**



Recovered Well Subsea Tree

PFC DEINSTALLATION

The deinstallation of the production platform will be conducted by Kvaerner with the Boabarge 34 and five support/tug vessels. The barge is currently at an outfitting yard in Europe where it is being prepared to receive the platform. It is expected to be towed to the Halifax Harbour in June, where it will be mobilized, and then towed to the Deep Panuke field in July.

The deinstallation process will essentially be a reverse of the platform installation operations in 2011. The production platform will be jacked downward onto the barge. The leg jacking system will retract the legs from the seabed and then the production platform will be secured to the barge for transport. The barge/platform will be towed to an inshore Nova Scotia location. The platform will then be taken to a final destination (yet to be determined) for re-use or recycling.



Boabarge 34 Being Outfitted for Platform Deinstallation Operations (May 2020)



Arrival of Deep Panuke Production Platform Transport Barge in Nova Scotia in 2011

ONSHORE FACILITIES REMOVAL AND RESTORATION

In the summer of 2019, the Deep Panuke gas pipeline was flushed and filled with clean seawater, the onshore portion of the pipeline (located near Goldboro, Nova Scotia) was dewatered, and the pipeline landfall site was restored and re-vegetated (including the previous gravel pad, fence and no anchor sign).

In July and August 2020, the following work will be completed:

- Grout plugs will be installed in the pipeline at the Highway 316 crossing and the Sable Road crossing to prevent ground subsidence and unnatural drainage of wet areas as the pipeline corrodes and weakens.
- All aboveground structures at the pipeline terminus site will be removed, reused or recycled if possible, or sent to approved disposal facilities.

There will be no disturbance of wetlands, watercourses, or plant species at risk as a result of this work.

The terminus site and adjacent parking lot, as well as all newly excavated areas for grout plug installation will be restored to natural grade and re-vegetated with native species seeds/transplants. The access road will be left as is as it is used by Maritimes and Northeast Pipeline to access their assets.



Deep Panuke Gas Pipeline Terminus Facilities near Goldboro, Nova Scotia



Onshore Portion of the Deep Panuke Gas Pipeline

SCHEDULE

Activity	Target	Estimated Duration
Gas Pipeline and Onshore		
Gas pipeline flushing and pigging	Completed (June-July 2019)	1 month (actual)
Gas pipeline offshore disconnects	Completed (August 2019)	1 week (actual)
Onshore facilities removal and restoration	July-August 2020	1 month
Subsea		
Flowline flushing and cleaning	Completed (September 2019)	2 weeks (actual)
Flowline/umbilical disconnects at wells and platform	Completed (March-May 2020)	7 weeks (actual)
Subsea structures removal	Q3-Q4 2020	1 month
Well Plug and Abandonment		
Offshore execution	Started February 2020	6 months
Production Platform		
Platform decommissioning	Ongoing	-
Platform de-installation	July-August 2020	1-2 week

CONTACTS

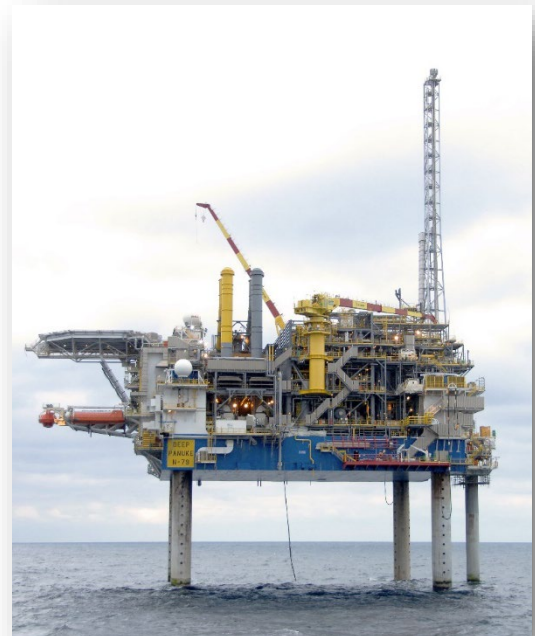
A key component of this information update is to provide up-to-date information on key activities. Ovintiv is available to meet with interested groups that would like to discuss potential effects, concerns, and interests related to the decommissioning activities so that these may be considered in the decommissioning planning process.

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Also visit Ovintiv’s Deep Panuke website for more information, including business opportunities:
<https://www.ovintiv.com/deep-panuke/>