

HEBRON NEWS BULL ARM UPDATE



Hebron Project Issue 12 - Quarter 2 2016

Hebron Sponsors Sunnyside Storyboard

BUILDING A PLATFORM

Bull Arm Fabrication Site

Bull Arm is a 15 km (9 mi) long inlet that winds from Trinity Bay to Truce Sound, the Town of Sunnyside and Inshore of Avalon. It is 150 km (93 mi) west of St. John's, Atlantic Canada's largest industrial fabrication site is located here, developed in the early 1990s to build the Hibernia gravity based structure (GBS) an oil production platform which has been in place on the Grand Banks since June 1997.

What Makes a Good Site?

The construction site at Great Mosquito Cove, Bull Arm was selected for Hibernia for its many favourable features, also appropriate for Hebron construction. The site offers a sheltered location for GBS construction in the temporary dry dock. A nearby area, close to shore, has sufficient water depth to allow for final construction of the GBS and mating of the topsides and GBS - known as the deep water site (DWS). In fact, the water depth at the DWS is greater than that of the Hebron offshore field.

Working the Dry Dock and Deep Water Site

- The Hebron GBS was constructed up to a height of 27 m (88 ft) in the dry dock. When all concrete and mechanical outfitting work was completed to that height, the dry dock was flooded; and the GBS was floated and towed to the DWS for the remainder of construction.
- GBS construction continued at the floating construction site, including the largest concrete platform operation to take place in this province since Hibernia. Concrete slipforming and mechanical outfitting of the GBS will be completed at the DWS, up to a height of 126 m (414 ft).
- After all topsides components are complete, including assembly of the living quarters module at the Bull Arm module hull, the topsides is assembled on the finger pier between the dry dock and DWS. Once assembled, the topsides is floated to the DWS, where the GBS has been ballasted to allow for connection (mating) between the two pieces.

Platform Dimensions

How the GBS Floats

Even though the platform will weigh approximately 630,000 tonnes it can float! The platform will float due to the principle of buoyancy - for an object to be buoyant (to float) it must displace as much water as its weight - discovered by Archimedes around 212 B.C. The GBS was designed to displace over 630,000 tonnes of water.

Fun Facts

- If you laid all the steel for the entire Hebron GBS (over 12,000 km - 7,470 mi) end to end it would stretch across the entire Atlantic Ocean more than 1000 times the distance.
- The topsides module built at Bull Arm is the largest module ever built in Canada. These are the second largest ones in North America - the largest is in Brazil.
- Approximately 80,000 kg of concrete was poured out of the dry dock to begin construction of the Hebron GBS. It took approximately 100,000 kg of concrete.
- The Hebron platform includes accommodation for 200 people.
- The Hebron platform was designed to sustain 100,000 tonnes of oil per day.
- In 1996, Hibernia completed the largest vessel in Canada (8,400 m x 22,000 ft).
- In 2015, the Hibernia FPSO will replace the FPSO in 2015 (10,000 m x 22,000 ft), the largest vessel in Canada and the 10 largest vessels in North America.

Hibernia Milestones

- 1990 - Construction of the camp and other components began at Bull Arm
- 1992 - Drydock construction of the GBS began
- 1997 - Production topsides and Gravity Base Structure mated
- Platform installed on the seabed at the Hibernia Field
- First oil production
- Canadian record flow rate set
- First oil tanker load completed

Hebron Milestones

- 2010 - Front End Engineering and Design commenced
- 2011 - Bull Arm Site preparation
- 2012 - GBS construction began in dry dock
- 2013 - Topsides fabrication began
- 2014 - GBS dry dock construction complete, lowered to deep water site for final construction
- 2016 - Mating with topsides, hook up and commissioning
- 2017 - First Oil



The Hebron Project was proud to fund and develop of a storyboard for the Town of Sunnyside. The storyboard provides an overview of the history of Bull Arm and the world-class work that went into the construction of both the Hibernia and Hebron projects. In January, the town of Sunnyside officially unveiled the storyboard. Chet Zabik (pictured above), ExxonMobil's GBS Construction Lead, attended the event on behalf of the Hebron Project. The storyboard is strategically placed adjacent to the Sunnyside 50+ Club building which overlooks the Hebron GBS at the deepwater site.



Construction continues inside the GBS including installing piping and electrical systems, following completion of the centre shaft slipform to 120 metres.



The Drilling Support Module (DSM) arriving at the Bull Arm quay from Marystown in December 2015. GBS at deepwater site visible in the distance.



(L-R) The DSM and Derrick Equipment Set at the Bull Arm topsides pier.

Contact Us

The Hebron Information Centre is located at the TCH entrance to the Bull Arm Site (Nalcor Building). Community Relations staff are generally available Monday-Friday during regular business hours.

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Did You Know?

The DSM was the largest module ever constructed at the Kiewit Offshore Services (KOS) facility in Marystown/Cow Head, with a weight of ~3,200 metric tons.