



# Port of Sept Iles

Marine Dock

Sept Iles, Quebec

## + Project Snapshot

- Piles at 1.8M diameter (63M length weighing 59 Tonne)
- Drilling with the BHD-80 Reverse Circulation Drilling system
- Rock sockets

## + Project Background

In the spring of 2012, SB Canada was contacted by Pomerleau Inc, to joint venture with them on the construction of the largest deep water port of its kind in North America. Pomerleau brought SB Canada's marine rock socketing expertise and ability to quickly design and build custom equipment in on a joint venture basis.

This multi-use dock was to be constructed in the Gulf of St Lawrence River in the town of Sept-Iles, Quebec. This dock designed to service two Chinamax ships simultaneously. These ships hold 7 times the volume of a traditional large ocean freighter. The project was awarded in the fall of 2012 with an almost immediate start-up.

## + Project Description

The piles supporting the massive dock were up to 1.8 meter in diameter, 63 meters long, and weighed 59 tonne. These huge piles were installed and driven to bedrock in one piece and were both vertical and battered.

The rock borings indicated a compressive rock strength of 85 MPa. The actual rock compressive strength was up to 185 MPa and the under reaming bits, originally specified, did not perform adequately because under these conditions the bits had to perform near the upper, practical, limit



**Owner**  
Port of Sept Iles  
**Joint Venture Partner**  
Pomerleau Inc.

**SB Canada Personnel**  
Greg Stokkermans, Brian Davies  
**Period of Work**  
2012

of rotary drilling methods. SB Canada's engineering and fabrication came to the rescue and quickly designed and fabricated new bits and a drill system that could take the necessary crowd force required to break this very hard rock.

The drilling was done with a Birmingham BHD-80 Reverse Circulation Drilling system on a flying lead capable of applying the high crowd force and hence contact pressure.

## + Innovative Solutions

The work was executed through two challenging winter seasons under significant tidal conditions. SB Canada built a custom bubbler system and utilized underwater sound monitoring to enable construction during the regulated whale mating season.

SB Canada's rapid response to

the changed rock conditions and dynamic engineering response to project constraints including the 'whale window' enabled the rock socketed piling to be finished on time.

