BAIE ST PAUL: first Trillium class bulker

Shipbuilder: ..**CSSC Chengxi Shipyard Co., ltd**
Vessel's name: ..... ***Baie St. Paul***
Hull No: **CX9301**
Owner/operator: ..... **Canada Steamship Lines**
Country: ..... **Canada**
Designers: ..... **Cooke Naval Architect Consultants Inc (CNAC)/ SDARI**
Country: ..... **Canada/China**
Model test establishment used: ..... **Shanghai Ship & Shipping Research Institute (SSSRI)**
Flag: ..... **Canada**
IMO number: **9601027**
Total number of sister ships already completed (excluding ship presented): ..... **nil**
Total number of sister ships still on order: **3**

Baie St. Paul is the first of a new generation of Trillium class self-unloading bulk carriers that was delivered to Canada Steamship Lines in September from CSSC Chengxi Shipyard Co., Ltd.

The vessel incorporates a number of innovative features. As a self-unloader, it is specifically designed to excel in short sea shipping trades where it can compete advantageously against other forms of transportation. Its high performance cargo unloading system can deliver over 5000tonnes of cargo hour at open dock facilities, which allows the vessel to deliver 30,000tonnes of cargo in less than six hours.

The vessel has been adapted for sensitive operations in the Canadian Great Lakes, *Baie St. Paul* offers outstanding environmental performance thanks to technological developments such as: a water lubricated stern tube; better air emission performance per tonne-mile; reduced dust and noise (from control, equipment enclosures and equipment performance), and; innovative cargo residue control. The vessel even has the capability to collect, treat and discharge ashore cargo residues, wash water and dust collected during the loading operation of the vessel. A thermal oil heat recovery system allows the recovery and use of heat that would otherwise be wasted as well as the safe winterisation of sensitive components.

The vessel's manoeuvrability is obtained from a bow thruster, stern thruster and propeller steering nozzle all of which are integrated into a dynamic positioning system, which is a first for a vessel of this class. The ship can be operated in "position keeping" mode while waiting in congested areas, typical of the Great Lakes. It also has the ability to enter and exit canal locks more efficiently than any vessel of its size.

Crew comfort and performance have been improved by designing the ship around the operating profile of the vessel. Common areas are grouped to maximise the effectiveness of the interface between the crew and visitors, contractors, agents and officials attending the vessel.

Twenty-two high quality remotely controlled video cameras ensure maximum coverage from a number of control positions. Areas such as the generator flat, the cargo tunnels, the ship's access points and many others are easily monitored from multiple stations. The "one man" bridge operation and integrated bridge systems provide the technology and ergonomic features adapted to the operation of bridge teams in restricted waters and simplified operation on busy Lakes trades routes. Eight deck winches ensure the efficient securing of the vessel in locks and also along customer docks fitted with simple loading installations.

TECHNICAL PARTICULARS

Length oa: 225.5m
Length bp: 222.6m
Breadth moulded: 23.76m
Depth moulded
To main deck: 14.75m
Draught
Summer: 9m
Design: 8.07m
Gross: 24,430gt
Deadweight
Design: 29,700dwt
Scantling: 34,500dwt
Speed, service: 13knots
Cargo capacity
Bale: ..... 41,708m^3
Grain: ..... 41,708m^3
Bunkers
Heavy oil: ..... 677m^3
Diesel oil: ..... 130m^3
Water ballast: ..... 18,118m^3
Daily fuel consumption
Main engine only: 29tonnes/day
Classification society and notations: ..... LR +100A1, Great Lakes Bulk Carrier (self-unloader) for service on the Great Lakes and River St Lawrence, ShipRight, ACS(B), LI, ECO, +LMC, UMS, NAV1, IBS, descriptive notation: part higher tensile steel, self-unloader, double skin, BWMP (S) (SERS), green passport
Main engine make and model: ..... 1 x MAN B&W
Model: ..... 6S50ME-B9 Tier II
Manufacturer: ..... Hudong Heavy Machinery
Type of fuel: ..... HFO, MDO
Output of each engine: 8,750kW
Gearboxes
Make: ..... Renk
Model: ..... 1 x BW111S50/GCR 2600
Propeller
Material: ..... Bronze
Designer/manufacturer: ..... MAN
Number: 1
Fixed/controllable pitch: ..... Controllable
Diameter: 5.2m
Speed: 109rpm
Special adaptations: ..... Ducted steering nozzle
Main-engine driven alternators
Make/type: ..... 1 x SAM
Output/speed of each set: ..... 2,750kW x 1,800rpm
Diesel-driven alternators
Engine make/type: ..... 3 x ZCME-MAN 2 x 6L21/31/ 1 x 5L21/31
Type of fuel: ..... HFO, MDO
Output/speed of each set: 1,320kW/ 1,000kW
Alternator make/type: ..... CME-Hyundai HFJ6-564, HFJ5-632
Output/speed of each set: ..... 1,250kW x 938kW
Boilers
Type: ..... 3 x Thermal oil fired/ Exhaust gas heater
Make: ..... Gesab
Output, each boiler: 1,500kW, 585kW, 400kW
Cargo gear
Type: ..... five hoppered cargo holds with cargo discharge gates, two tunnel conveyors below cargo holds, two thwartship transfer conveyors, 'C' loop type elevator, discharge boom conveyor
Make: ..... EMS-Type
Type: ..... Gravity type
Performance: ..... up to 5,000tonnes/h
Mooring equipment
Make: ..... 8 x Dilts Electro-hydraulic
Special lifesaving equipment
Number of each and capacity: ..... 1 x 30persons
Make: ..... Neptune Freefall
Hatch covers
Design: Single panel, lifted and lowered via gantry crane
Manufacturer: ..... TTS
Type: ..... Main deck
Cargo tanks
Number: 5
Grade of cargo carried: ..... Dry bulk
Product range: ..... Cargos with RHO up to 2,4tonnes/m^3 and grain
Coated tanks: ..... IP Intersheild 300 & Interzone 1000
Ballast pumps
Type: ..... 4 x Centrifugal
Make: ..... Taiko
Stainless steel: ..... Shafts
Capacity: ..... 2 x 2,500m^3/h + 2 x 500m^3/h
Cargo control system
Make: ..... EMS-Tech
Type: ..... Self-unloading equipment
Ballast control system
Make: ..... Pleiger
Type: Electro-hydraulic remote control valves, pneumatic/ electronic tank level ..... measuring system
Complement
Officers Crew: 8/26
Stern appendages/special rudders: ..... Steering nozzle
Bow thruster
Make: ..... 1 x Wärtsilä
Output: 1,000kW
Stern thruster
Make: ..... 1 x Wärtsilä
Output: 600kW
Bridge control system
Make: ..... Sperry
Type: ..... IBS
One-man operation: ..... Yes
Fire detection system
Make: ..... Tyco
Fire extinguishing systems
Cargo holds: ..... Sprinkler two conveyors systems
Engine room: ..... NK/ CO_2
Cabins/public spaces: ..... Firemain
Radars
Make: ..... Sperry
Model: ..... VisionMaster FT
Integrated bridge system
Make: ..... Sperry
Waste disposal plant
Incinerator: ..... Teamtec/ OGS 400C
Sewage plant: ..... RWO/ WWT-LC4
Contract date: ..... 12 June 2010
Launch/float-out date: ..... 26 March 2012
Delivery date: ..... 27 September 2012

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