

MARINE OCCURRENCE REPORT

GROUNDING

OF THE BULK CARRIER "PONTOPOROS"  
IN THE PORT OF SOREL, QUEBEC  
05 SEPTEMBER 1996

REPORT NUMBER M96L0111

The Transportation Safety Board of Canada (TSB) investigated this occurrence for the purpose of advancing transportation safety. It is not the function of the Board to assign fault or determine civil or criminal liability.

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### *Summary*

On 05 September 1996, the Cypriot bulk carrier “PONTOPOROS”, with a cargo of 27,332 tonnes of wheat, departed the Port of Sorel, Quebec, bound for Naples, Italy. After clearing a berth at the mouth of the Richelieu River, the “PONTOPOROS” swung around in preparation to head downstream in the St. Lawrence River, but she grounded on a shoal at the edge of the channel. At the time of the accident, the vessel was under the conduct of a pilot and was assisted by two tugs.

The vessel sustained minor damage, but there was no pollution as a result of this accident.

*Ce rapport est également disponible en français.*



ST. LAURENT” cast off the after tow-line of the vessel. Full speed ahead and 20 degrees starboard helm were ordered; starboard movement continued. When the vessel came around to a heading of 055°G at 2209, the “OMNI RICHELIEU” cast off the vessel’s forward tow-line.

The helmsman was ordered to steer 065°G. The pilot called the Marine Communications and Traffic Services (MCTS) by radiotelephone to report the vessel’s estimated time of arrival at the next calling-in point. Meanwhile, at about 2210, the “PONTOPOROS” grounded in position 46°03.36’N, 073°06.30’W, on a shoal at the edge of the channel. The vessel was on a heading of 063°G, about two cable lengths north of buoy SN28.

With the assistance of the tugs “MAGDELAN SEA” and “DUGA”, the “PONTOPOROS” was refloated on 13 September at 0533. No water ingress was found and Transport Canada allowed the vessel to leave Sorel on condition that she anchor in Sept-Îles Bay for a hull inspection. On 15 September, an underwater inspection revealed only minor damage and the vessel departed for Naples.

The MCTS log indicates that at 1545 on 05 September 1996, the water level at Sorel was 0.77 m above chart datum. Low under-keel clearance can affect the performance of the propeller and rudder.

The current vector opposite the mouth of the Richelieu River, as indicated on Canadian Hydrographic Service (CHS) marine chart No. 1312, flows parallel to the île de Grâce course.

Conduct of the vessel was by visual observation. The manoeuvre executed, which consists of swinging to head downstream in the St. Lawrence River, is that adopted by the pilots. A 10 m isobath extends from the mouth of the Richelieu River to the entrance of the ship channel downstream of the port. The channel entrance is not marked.

On 24 August 1995, the bulk carrier “VAKHTANGOV”, with a draught of 10.21 m, grounded in position 46°03.76’N, 073°06.76’W, while attempting a similar manoeuvre to depart from the same dock. The “PONTOPOROS” and the “VAKHTANGOV” grounded at the edge of the shoal, south-east of the 10 m isobath.

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<sup>3</sup> According to the pilot, the vessel heading was 065°G.

## *Analysis*

The low under-keel clearance affected the manoeuvrability of the vessel. The use of rudder and main engine did not produce the intended result. The propeller thrust was not sufficient to give the ship enough momentum. The low speed over the ground achieved to reach the île de Grâce course caused the vessel to drift parallel to that course, and she grounded to the south of the ship channel.

During the manoeuvres, the pilot used reference points from landmarks which he was accustomed to using to maintain direction, and he also referred to the rate of turn to monitor the drift of the vessel. However, at night it is more difficult for observers to perceive visual information than in daylight. Thus, when navigating at night, mariners have more difficulty when attempting to identify landmarks. During a swing manoeuvre, the vessel's heading changes continuously; this manoeuvre therefore requires high levels of concentration and skill. Pilots, therefore, must be alert when manoeuvring in such conditions. Their attention must be divided between the progress of the vessel and the observation of visual references, which they must follow continuously. Observation becomes more difficult and further increases the workload, as it is possible to confuse navigation lights, range lights and other illuminated visual references with city lights, which often lie in the background.

Navigation by parallel indexing with the aid of radar in stabilized relative presentation mode helps reduce the additional visual workload created by darkness, thereby preventing spatial disorientation.

Visual observation of references is one of the primary tasks involved in berthing and unberthing manoeuvres. An aid to navigation at the channel entrance would have allowed a more accurate visual assessment of the drift of the vessel toward the shoal, but Coast Guard advises that care must be taken not to proliferate navigational aids in the area because too many aids could cause interference with normal pilotage.

## *Findings*

1. Low under-keel clearance affected the manoeuvrability of the vessel.
2. The vessel did not have sufficient momentum to reach the île de Grâce course.
3. The use of rudder and main engine did not produce the intended result.
4. Darkness affected the pilot's visual performance.
5. The radar was not used effectively.
6. The Sorel channel entrance is not buoyed.

## *Causes and Contributing Factors*

The grounding of the "PONTOPOROS" on a shoal south of the channel was due to limited visual observation of landmarks. Navigation was by visual observation only, although it was dark. The low under-keel clearance, which could affect the manoeuvrability of the vessel, was not duly taken into account.

*This report concludes the Transportation Safety Board's investigation into this occurrence. Consequently, the Board, consisting of Chairperson Benoît Bouchard, and members Maurice Harquail, Charles Simpson and W.A. Tadros, authorized the release of this report on 22 July 1998.*

*Appendix A - Sketch of the Occurrence Area*