

Bay City Marine Ltd
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TECH

Advanced new tug mark

Main particulars

Length oa	140 ft
Length at waterline	130 ft
Breadth (max)	37½ ft
Draught (mean)	12 ft
Freeboard (min)	6 ft
Displacement (full load)	662 tons
Horsepower (shp)	2,500
Speed (max)	14.7 knots
Speed (cruising)	12 knots
Range (cruising)	14,000 miles
Manning	17
Icebreaking ability (max)	up to 30 in

A NEW 140 ft icebreaker/harbour tug built for the US Coast Guard is due to be commissioned in New York this month.

Constructed at Bay City Marine's yard at Tacoma, Washington, the vessel was named the *Penobscot Bay* (WTGB 107) in a ceremony at San Diego, California, and went on to Portsmouth, Virginia, for final Coast Guard loading.

Although the *Penobscot Bay* is the seventh in a planned ten-ship series, her contract award and construction marked a "first" for small, minority-owned companies. Bay City Marine, based in San Diego, built the icebreaker at its newbuilding facility at Tacoma.

The *Penobscot Bay* and her sister WTGB icebreakers are replacing the 110 ft WYTM icebreakers which the Coast Guard

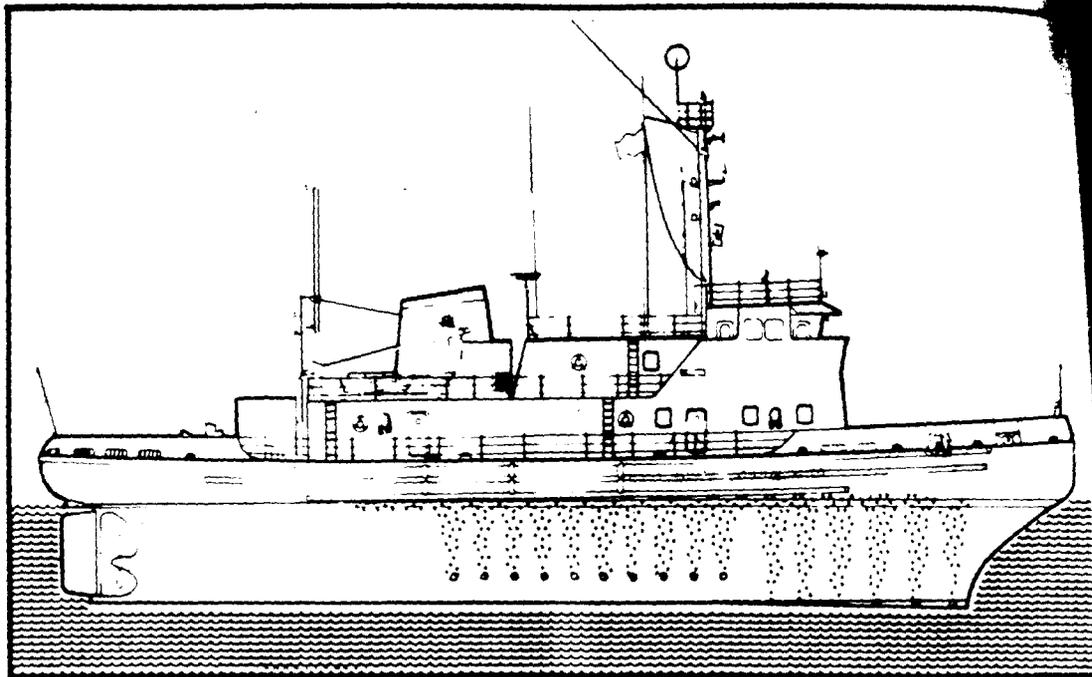


Diagram showing the "bubbler" hull air lubrication system of the *Penobscot Bay*. Low-pressure air is forced through ports in the hull to improve the vessel's icebreaking capability.

has been using since the late 1940s. Most of the new icebreakers will be stationed in the Great Lakes and others — such as the *Penobscot Bay* — at East Coast harbours and bays.

Main features of the WTGBs include a waterline length of 130 ft, a breadth of 37½ ft, and a mean draught of 12 ft. The diesel-electric propulsion system consists of two Fairbank Morris diesel-main

engines coupled to a Westinghouse motor which drives a single shaft and a four-blade nickle aluminium bronze 8½ ft propeller.

The full complement of 17 officers and crew is three fewer than required for the old WYTM as a result of automation features and an engine control centre that centralises most operational functions, controls and displays.

Bay City Marine won the \$15

million contract in September, 1982. The *Penobscot Bay* was launched last July and Coast Guard preliminary acceptance trials were completed last month.

The San Diego company is building its second icebreaker (WTGB 108) at Tacoma. The launch of this next vessel, to be named *Thunder Bay*, is scheduled for August this year.

Bay-series icebreakers have a

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a milestone for US firm



The 140 ft *Penobscot Bay*, which will perform harbour duties on the US East Coast.

"hull air lubrication" system which operates by forcing low-pressure air through ports in the hull, giving the ship an improved icebreaking capability. Air bubbles rise from the ports along the hull's surface, displacing water and ice. This creates lubricating action between

the hull and broken ice. Coast Guard crew members have nicknamed the hull air lubrication system the "bubbler." The power supply and compressor are in a portable van mounted on the after deck.

Coast Guard officials have wel-

comed the new icebreakers for several reasons:

□ Increased icebreaking capability: the new vessels are designed to break ice 24 in thick — twice the thickness of the vintage 110-footers

□ Operating ranges doubled from 2,000 to 4,000 nautical miles

□ Better safety and comfort for the crew

□ Increased towing capability thanks to a 900 ft hawser of 90,000 lb pull.