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PURVIS MARINE

# WORKBOAT ANGLIAN LADY LIGNUM VITAE BEARING REPLACEMENT

## PROJECT OVERVIEW

| | |
|---|---|
| Client: | Purvis Marine Ltd. |
| Vessel: | Anglian Lady |
| Location: | Sault Ste Marie, Ontario |
| Class of ship: | Workboat |
| Shaft Size: | Ø239mm |
| Start: | August 2025 |
| Finished: | October 2025 |

Hydro Tech Inc. supported Purvis Marine with the supply of Lignum Vitae water-lubricated bearing technology and technical expertise for the Anglian Lady workboat, contributing to the successful replacement of the previous bearing material with a durable, proven, and environmentally responsible bearing solution.

The Anglian Lady is a 3,500 HP workboat operated by Purvis Marine Limited in Sault Ste. Marie, Ontario. Built in 1973, the vessel is equipped with twin diesel engines, variable-pitch propellers, and fixed Kort nozzles, enabling reliable performance in demanding marine service operations

The previous bearing arrangement used a synthetic bearing material that had shown wear-related concerns and performance limitations during service. As part of the upgrade project, Hydro Tech was contracted to support the conversion to a Lignum Vitae bearing arrangement, with the objective of improving bearing durability, ensuring reliable shaft operation, and providing a proven natural and environmentally responsible alternative for water-lubricated marine bearing applications.
As part of a technology evaluation initiative, the project scope was limited to the replacement of the starboard-side bearings only. The supplied scope included one A-bracket bearing assembly and one forward stern tube bearing assembly designed for a 9.4-inch shaft diameter.

Lignum Vitae remains a proven natural bearing material offering excellent wear resistance, long service life, and non-polluting operating characteristics. In addition, the material is 100% PFAS-free certified, supporting environmentally responsible vessel operations while maintaining reliable performance under robust marine operating conditions.

Specific to this project, Hydro Tech's involvement included:

- Engineering and design adaptation for the new bearing material arrangement
- Preparation of technical instructions and quality documentation
- Provide assembly guidance and installation recommendations
- Provide technical and supervision support during the shop pre-assembly activities
- Provide operation and maintenance recommendations (O&M Manual), including storage, handling, and transportation procedures related to the Lignum Vitae.

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The pictures below provide an excellent opportunity to demonstrate the size of the equipment, the level of technical involvement required for the successful implementation of this bearing technology, and the numerous steps involved throughout the entire process.

Hydro Tech would like to acknowledge the dedicated efforts of all personnel involved in coordinating, designing, and supporting the assembly and installation activities to ensure timely project execution.

The project was completed successfully, and the vessel is now back in the water and ready for service, awaiting its next operational opportunity.




**Figure 1: Workboat Anglian Lady – Purvis Marine**

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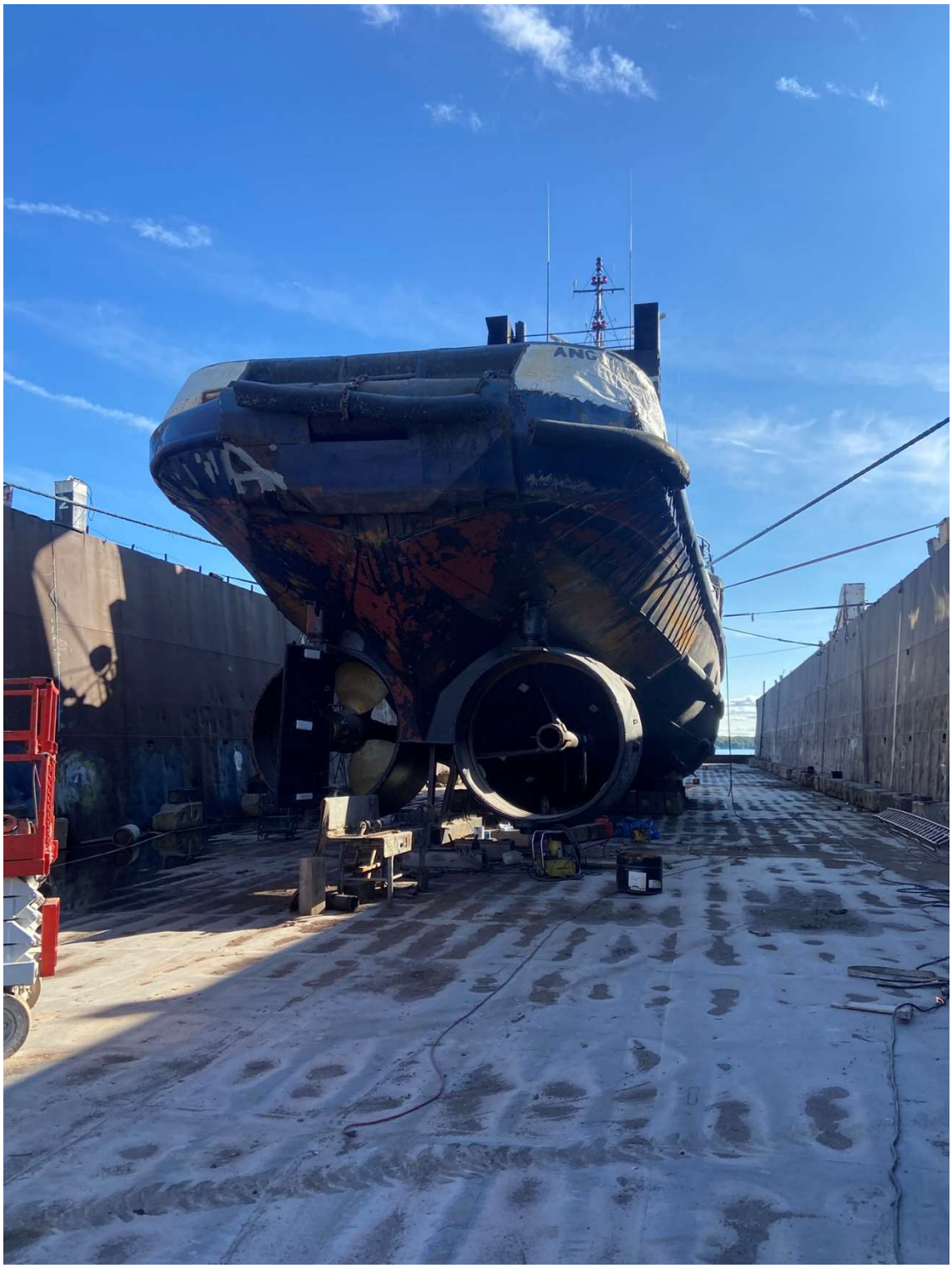

**Figure 2: Drydocked, Anglian Lady – Purvis Marine**

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**Figure 3: Stern tube, shaft and bearing removed**

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**Figure 4: Bearing ready for installation on the workboat**



**Figure 5: Bearing installation**



**Figure 6: Shaft line completely assembled**

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