

**SURVEY REPORT**



*Commercial Tug*

Prepared for:

[REDACTED]  
[REDACTED]

Prepared by:

**SWL CONSULTANTS**

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**GENERAL**

The following is a report on a survey conducted by Stephen W. Leake (Surveyor).  
 The survey was requested by [REDACTED]. (Client).  
 The object of the survey was to ascertain the general condition of the vessel for insurance purposes.

This report represents the educated opinion of the Surveyor and is subject to the condition of the vessel being ascertained from a general inspection while ashore without removing equipment or opening parts normally concealed, testing for tightness, operating machinery or systems unless specifically noted.

Use of this report by the Client or any third party, serves as acknowledgement of these provisions.

**STANDARDS**

The subject vessel has been surveyed for compliance where applicable with the following regulations and standards under the Canada Shipping Act:

Hull Construction Regulations  
 Construction standards for Small Vessels (TP1332)  
 Small Vessel Regulations  
 Collision Regulations

The Act and Standards may be viewed on the web at [www.tc.gc.ca](http://www.tc.gc.ca) and follow the links

**SURVEY PARTICULARS**

Date attended: [REDACTED]  
 Location: [REDACTED], Ontario.  
 Conditions: Calm, clear, dry, -12°C.  
 In attendance: Client representatives ([REDACTED])

**VESSEL PARTICULARS**

Name: [REDACTED]  
 Builder: Douglas McIntosh  
 Model: Commercial tug  
 Year: 1962  
 Registered Owner: [REDACTED]  
 Port of Registry: Ottawa  
 Registration Number: [REDACTED]  
 Gross Registered Tonnage: 13.90  
 Net Registered Tonnage: 9.62  
 Length: 39 ft (11.89 m)  
 Beam: 13 ft (3.96 m)  
 Depth: 3 ft - 4 in (1.01 m)  
 Draft: ~ 5 ft (1.52 m)  
 Freeboard: Forward: ~ 4 ft (1.22 m)  
 Midship: ~ 10 in (25 cm)  
 Aft: ~ 10 in (25 cm)  
 Propulsion: Single inboard diesel.  
 Auxiliaries: None. See Auxiliary Machinery

**VESSEL DESCRIPTION**

Vessel is a commercial tug of steel construction.

Hull form; hard chine, rounded stem, elliptical stern, flush decked with pronounced sheer forward and almost straight sheer from midship aft.

Raised cabin trunk over forward cabin, pilothouse midship and deckhouse aft.

Internal arrangement from forward to aft consists of cabin forward with shelving. Entrance aft to starboard from pilothouse fitted with steel ladder. The pilothouse and aft cabin are common. The helm station is raised affording visibility all around. Below deck the engine space extends aft to the stern from the aft bulkhead of the forward cabin.

**CONSTRUCTION**

Hull: Bottom plating viewed from interior appeared fair and in good condition. Thickness undetermined.  
Side plating viewed from interior appeared fair and in good condition, exterior above waterline also fair and in good condition. Thickness undetermined.

Transverse frames generally of 2x1/4" FB (flat bar) at 16" centres from forward bulkhead to within approximately 2m of stern where the arrangement changes to fantail layout. Frames forward of bulkhead of 2x1/4" FB at 16" centres with intermediate frames of 2x2x3/16" OA (ordinary angle). All frames seen in good condition and secure.

Bottom longitudinals of 1x1" OA inverted and toe welded to plating. Two per side.

Deck: Plating of 3/16" diamond tread pattern steel. Fair and in good condition.  
Deck beams of 2x1/4" FB at 16" centres.

Deckhouse: Of 1/8" steel plating. In good order.

**ANCHORING & MOORING**

Anchors: One fisherman.  
Rode: ~ 30m of 3/4 steel wire rope  
Locker: No.  
Windlass: Manual, with wire reel on forward cabin top.  
Bow roller: No. Open hawse holes in bulwark.  
Cleats: Single 5" pipe bollard at stem. Sound and secure.  
Fenders: Truck tires, eight per side. Functional.  
Boat hook: Yes.  
Lines: 1.5" polypropylene. Functional.

**LADDERS, RAILS & STANCHIONS**

Bulwarks: Height 29" forward, 26" midship to aft. Two freeing ports fitted each side, 16" x 6" clear openings. Reportedly new 2005. Sound and secure.

**HATCHES, DOORS & WINDOWS**

Exterior doors: Sliding side doors to pilothouse, one each side. Of two layers of ¾" plywood. In good order.

Hatches: Access hatch to steering gear and rudder stock in aft deck. Of 3/16" tread plate with four dogging bolts and gasketed all around on 1" high coaming, clear opening 23" x 48" .

Windows: Lexan in aft deckhouse, glass in pilothouse. In good order. {2}

Portlights: One per side in forward cabin trunk. Heavy commercial grade of bronze and in good order.

**HULL & DECK FITTINGS – Miscellaneous**

None of note.

**RIG**

Mast: 2" pipe mast for navigation lights and shapes. In good order.

**PROPULSION MACHINERY**

Engine model: Detroit diesel 6-71 with 3.5:1 gear ratio  
 Engine reportedly rebuilt 2001.  
 Estimated hours of operation since ~1200.  
 Outwardly the engine exudes oil but otherwise in good order and operated well.  
 (Vessel was taken for a 10 minute run through 2" thick ice and performed well).

Engine serial #: Not found.

Transmission model: not identified

Transmission serial #: Not found

Gear ratio: 3.5:1

Engine seats: Sound and secure.

Shafting: Steel, 3" diameter.

Coupling: Rigid standard coupling. In good order

Shaft inner bearings: None fitted or required.

Stern tube bearing: Water lubricated. No significant leakage noted.

Propeller: Not sighted

Cooling system:

Type: Closed keel cooler system.

Valves: None required.

Piping & hoses: 2" galvanized pipe. Outwardly in good order.

Exhaust system:

Type: Dry. Stack of double walled steel pipe carried up to ~ 4' above deckhouse top.  
 In good order.

Piping: Steel pipe. In good order.

Silencer : Steel drum of ¼ » thick steel, located in engine room. In good order.

**AUXILIARY MACHINERY**

A generator located forward in engine room. Not used. Client indicated the unit shortly to be removed.

**FUEL SYSTEM**

Type: Diesel  
 Fill(s) Location Decks.  
 Grounded Inherent.  
 Fill pipe: Steel pipe.  
 Tank Three  
 Location: One each side outboard of engine and one forward of engine.  
 Make Builder.  
 Material Mild steel. In good order.  
 Capacity Undetermined.  
 Grounded Inherent.  
 Shut-off: Gate valve at each tank draw.  
 Vent(s) Location Side decks, adjacent deckhouse.  
 Screen No. {1}  
 Delivery line(s) (USCG Type A1, J-1527, <5 yrs old)  
 Material: Copper pipe and hose. In good order.  
 Filters: Racor.

**CONTROLS & MONITORING**

Steering: Spoked helm wheel with chain and sprocket to rod linkage extending aft to gear box in turn connected to tiller arm on rudder stock. In good order.  
 Helm indicator: King spoke.  
 Engine In good order  
 Helm console gauges  
 Temperature – coolant  
 Voltmeter  
 Oil pressure – engine  
 Tachometer

**BILGE PUMPING SYSTEM**

Pump(#1): Rule 1500 gph. With manually activated switch.  
 Piping: Rubber hose. In good order.  
 Valves: No.  
 Pump(#2): Manual diaphragm mounted on aft deck. Could not be tested due to presence of ice.  
 Piping: Rubber hose. In good order.  
 Valves: No.

NOTE: Presence of oily residue in bilge water. Standard operating procedure reportedly is to periodically evacuate bilge water into receptacle for disposal ashore.

**VENTILATION**

Engine space: Natural via deck pipes.  
 Fuel tank space: As above.

**HEATING & AIR CONDITIONING**

None fitted.

**ELECTRICAL SYSTEM – DC**

Battery(ies): Two for engine start and general service.  
 Location : Engine room forward to starboard.  
 Battery: One for radio.  
 Location: On bulkhead shelf in forward cabin.  
 Restraint : Adequate  
 Cover : No terminal caps but located such that minimal risk of accidental shorting of terminals.  
 Ventilation : Adequate.  
 Cables : In good order.  
 Selector switch: No.  
 Alternator: 35A. As new.  
 Wiring: Functional.  
 Panel: Helm console.

**ELECTRICAL SYSTEM – AC**

System to be removed with generator.

**NAVIGATION & ELECTRONICS EQUIPMENT**

Compass: Non functional. [1]  
 Sound signaling device: Horn. Functional.  
 Lights: Navigation lights and towing lights.  
 Anchor and one towing light non-functional. [2]  
 Searchlight: One.  
 Windshield wipers: None fitted  
 Depth indicator: No.  
 Knot log: No.  
 Radios: One VHF Icom IC-M126DSC. Functional.  
 Public Address: No.  
 Autopilot: No.  
 Electronic positioning: No.  
 Radar: No.  
 Charts: For area of operation. [3]

**CATHODIC PROTECTION** None noted.

**FRESH WATER SYSTEM** None fitted.

**GREY WATER SYSTEM** None fitted

**SEWAGE SYSTEM** None fitted

**GALLEY OUTFIT** No galley.

**PROTECTIVE COATINGS & COSMETICS**

Painted overall and throughout. Generally in good order for a working vessel in constant use.

**MISCELLANEOUS EQUIPMENT** None of note.

**SAFETY EQUIPMENT**

Liferings: One approved.  
 Heaving line: Yes.  
 PFDs: Numerous approved small vessel lifejackets, at least four with whistles.  
 Liferaft: One approved four person. [4] Due for certified inspection and re-packing.  
 Flares: Not seen. [4]  
 Waterproof flashlight: Yes.  
 Fire fighting: Two 20lb Class BC. In good order.  
 Fire buckets: None aboard. Two required [4]  
 Medical kit: Yes. Lacking mandatory inventory per Small Vessel Regulations. [4]

[4] Safety equipment to be brought up to standards required under the Small Vessel Regulations. Note these are minimum requirements and should be amplified as necessary.

**DOCUMENTATION (Certificates, manuals etc)**

Registration certificate  
 Small Vessel Monitoring and Inspection, File # [REDACTED]  
 Minimum crew 2, maximum complement 2  
 Minor Waters Class II  
 First inspection 2003-05-29

**GENERAL COMMENT**

Vessel and equipment was found to be in sound condition, adequately maintained and in good operating condition except as noted.

**INSURABILITY**

The vessel as seen, remains suitable for its designed purpose, subject to Recommendation [1-4] being implemented.

**VALUATION**

As inspected: In the order of \$ [REDACTED].  
 Valuation based upon prevailing local market, vessel condition and outfit.

**SAFETY DEFICIENCIES & RECOMMENDATIONS**

- [1] Compass - Non functional. A functional compass to be carried aboard.  
 [2] Anchor and one towing light non-functional. All navigation lights to be maintained in functional condition.  
 [3] Charts to be kept up to date and legible. Accessories necessary for the proper use of the charts to accurately determine the position of the vessel to be kept aboard.  
 [4] Safety equipment to be brought up to standards required under the Small Vessel Regulations. Note these are minimum requirements and should be amplified as necessary.

**SURVEYOR'S ADDITIONAL RECOMMENDATIONS**

- {1} It is recommended that screens be fitted on fuel vents.  
 {2} Wheelhouse windows should be of safety glass to be in compliance with TP1332.