

# **IVY MARINE**

**SERVING THE GULF COAST AND INLAND WATERWAYS**



October 3, 2010

File No: 10-012

MARGARET M.  
LIMITED LIABILITY CORP  
13155 GRANT ROAD  
LEMONT, IL 60439

Re: Tug MARGARET M  
O.N.: 271911

## **CONDITION & VALUATION SURVEY REPORT**

THIS IS TO CERTIFY THAT the undersigned surveyor did, at the request of owners, conduct survey of the Tug MARGARET M, while afloat at Lemont, IL, on September 30, 2010 and subsequent dates, in order to ascertain the overall condition and valuation for insurance underwriting purposes.

### **PARTICULARS**

|            |  |
|------------|--|
| LENGTH     | : 84' (registered)   |
| BREADTH    | : 24'  |
| DEPTH      | : 10'  |
| GROSS TONS | : 167  |
| NET TONS   | : 74   |
| PROPULSION | : Twin oil screw   |
| HORSEPOWER | : 1,100  |
| BUILT      | : 1956 / Sturgeon Bay, WI  |
| DOC. OWNER | : Margaret M Limited Liability<br>13155 Grant Road<br>Lemont, IL 60439 |

### **SCOPE OF SURVEY**

The survey was carried out with the vessel afloat. Therefore, external conditions below the waterline could not be inspected.

No machinery was operated for the purpose of this survey.

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## **DESCRIPTION AND GENERAL ARRANGEMENT**

The MARGARET M is a model bow coastwise tug of all welded steel construction with a chine hull and rounded stern.

The main deck is open and set up for towing astern with an electric towing winch.

There is a single level deckhouse of all welded steel that encompasses a galley, crew berthing and a fidley. On the forward end of the deckhouse is the pilothouse. It is on a hydraulic ram and can be raised to give the operator a 17' eye level.

The hull is longitudinally framed with transverse web frames. There is a heavy steel rub rail at deck level and a lower one at the water line. The hull is divided into the following compartments from the bow to stern:

- Forepeak tank;
- Ram room with a workshop and storage space;
- Port and starboard fuel and water tanks with a passage between from ram room to engine room;
- Engine room
- Port and starboard fuel and water tanks with a passage between;
- Lazarette – steering compartment.

## **UNDERWATER BODY**

The vessel was afloat at the time of survey; therefore inspection could not be made below the waterline. The vessel was last dry docked 2005, at Chicago, IL, where it underwent routine and recommended bottom work and application of new anti-fouling coating and zinc anodes for the renewal of her Great Lakes Load Line certificate.

Ownership reports no unrepaired damages since the dry docking.

## **HULL ABOVE THE WATERLINE AND WEATHER DECKS**

The hull was examined above the waterline from inside and outside where possible and was found in generally fair condition. There is moderate wash-boarding but the hull is structurally sound. Small dents were noted on both bows below the lower rub rail. The upper rub rail is dented and flattened in numerous places and the lower rail is in overall good shape, with some rust through on the port stern.

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The topsides were found to be in satisfactory condition, with paint coatings intact. The hull is unprotected with no fenders except at the stern.

Additionally, the hull benefits from two welded steel half-round pipe guard.

The bulwarks show random light indents and wash-boarding, consistent with age and service, but are structurally sound and freeing ports provide the vessel with an exceptional ability to shed water.

The coatings on the hull are in generally poor condition. The hull shows areas of light corrosion. The coatings on the inside of the hull are in generally good shape in the ram room and engine room. The coatings in the lazarette are poor. Areas of corrosion were noted on the transverse frames near the hull plating.

The main deck is flush, allowing full walk around of the superstructure.

The exterior deck plating was examined and found to be in good condition. The tow knees were also examined and found to be sound and braced appropriately. No distortion of the deck from the knees was found.

The coatings on the deck were found to be poor with no evidence of non-skid.

## **SUPERSTRUCTURE**

The exterior of the deckhouse was found to be in overall good condition. The steel looked to be structurally sound. All portholes and hatches were in operating condition and there were no broken port lights. The roof was found to be in good condition with appropriate handholds and railings. Rust was evident on the forward splash rails on the roof.

The coatings on the sides and top of the deckhouse were in poor condition. Paint is peeling up in large patches on the roof and roof of the pilothouse.

## **PILOTHOUSE AND NAVIGATIONAL AIDS**

The pilothouse is functionally laid out with three forward facing safety glass windows, and three (3) aft facing windows over the accommodation trunk, and two windows and one door with a window on each side (port and starboard) providing good operator visibility.

Access is through weather tight doors port and starboard sides, from ladders and steps from the main deck when in the lowered position.

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Forward in the pilothouse is the navigation console, fitted with electronic and operational equipment within easy reach of the operator as follows:

- 2- Furuno radars
- 1 - magnetic compass
- 1 - Furuno GPS Navigator
- 1 - loudhailer/intercom
- 2 - VHF transceivers
- 1 - Furuno model LS6100 depth finder
- 2 - steering controls for stern and flanking rudders
- 2 - main engine controls
- 2 - main engine starts/stops
- 2 - searchlights

The aft bulkhead of the wheelhouse finds a small work counter, bench seat and file cabinet. A chart board is hinged on the ceiling on the starboard side.

Coatings in the wheelhouse were found to be in good condition although yellowed.

## ACCOMMODATIONS

Accommodations are on the main deck level and have both heat and air conditioning.

The galley is the aftermost room, stretching side to side with access from the weather deck on both port and starboard sides. In the center of the galley's forward bulkhead is a door to a central hallway. Off this hallway is a storage room to port with the chief engineer's bunkroom ahead of it; to starboard is a head with a toilet and sink across from the chief engineer's room and a bunkroom with a double bunk between the head and the galley.

The forward bulkhead of the chief's room and the head has a door leading from the hallway to the fidley (upper engine room). The fidley contains a stacked washer/dryer and barge light storage. The fidley has a walkway from side to side forward with a hatch to the weather deck on each side. A walkway extends through the fidley from stern to bow. The walkways have proper railings to protect crew from falling in to the exposed engine room.

A door in the forward bulkhead in the fidley opens on to a central hallway. To port off this hall is a bunkroom with two bunks and ahead of that is a room with a shower and a sink. Across from this partial head is a room with one bunk and storage cabinets. Access to the weather deck is through a small hatch in this room. Between this room and the fidley on the starboard side is a bunkroom with two bunks. The forward bulkhead is also the bulkhead behind the wheelhouse.

All rooms in both the forward and aft sections were in fair condition. Coatings were generally good, but housekeeping was poor.

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## **ENGINE ROOM / MACHINERY**

The vessel is propelled by a pair of CAT D397 marine diesel engines, developing 550 HP each. Power is provided to two (2) four (4) blade 62" x 54" stainless steel propellers through two (2) Twin Disc model MG 527 reverse/reduction gears of 3.86:1 ratio.

Electrical power is provided by a two (2) John Deere diesel generators, mounted aft and outboard each main engine.

The hours on the main engines, gears and generators are unknown. Tags on both main engines indicate in excess of 20,000 hours.

Typical fuel transfer, bilge and fire pumps, oil pumps, air compressors, water pumps and associated piping were found in the engine room and looked to be in fair condition. All systems seemed to be intact. A small oil fired boiler was also in fair condition.

Hydraulic cylinder for wheelhouse has discharged most of its hydraulic fluid in the Ram Room. It is assumed that the ram is inoperable in its present state.

## **TANKAGE**

Fuel is carried in four (4) integral engine room wing tanks, with total capacity of 16,930 gallons. Fuel lines are a combination of steel and rubber, and are in good condition. The engine is protected by fuel filters.

Water is carried in independent, free standing tanks inboard of the forward fuel tanks with a combined capacity of 4,000 gallons.

Sewage holding capacity is 2,000 gallons. The vessel is fitted with a pump out pipe to the deck from the sewage tank. The vessel does not have the ability to pump sewage overboard in accordance with Great Lakes No Discharge rules.

## **FIRE PROTECTION AND LIFE SAVING**

- 8 - Dry chemical and Co2 fire extinguishers placed throughout the vessel, All out of date.
- 8 - Type I Adult PFDs
- 2 - First aid kits, out of date.
- 1 - Survival suit
- 1 - 8 person, inflatable Life raft – out of date and stored in fidley.
- 2 - 30" life rings. No water light, lines rotted.
- 1 - Flare kit – out of date.

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Hose stations are located to port and starboard on the exterior of the deckhouse at midship. Hoses are in general disrepair with evidence of dry rot.

## **DECK FITTINGS**

The deck fittings were examined and found to be in generally good condition. The following was found:

- Two (2) electric motor driven Beebe BB40 face wire winches (6400 lbs line pull each);
- Four (4) deck mounted roller chocks;
- One (1) bow bitt;
- Three (3) kevels on each side of the vessel;
- One (1) Westinghouse single drum towing winch with level wind with 1,000' of 1" wire;
- One (1) large aft towing "H" bitt.

## **SUMMARY / RECOMMENDATIONS**

The vessel was found to be overall in fair condition (but visually poor), fit for the intended service as a near coastal and inland rivers tug, and a reasonable insurance risk once the following recommendations are carried out:

- Have all fire extinguishers inspected and re-charged;
- Put survival suits on the vessel for a minimum of five people;
- Put new first aid kits on the vessel;
- Have the Defib Tech LifeLine AED inspected and tested;
- Test and repair as necessary the fire alarm system and General Alarm system;
- Test and repair as necessary the vessel's water and sewage plumbing systems;
- Test and repair as necessary all bilge, oil, fire and fuel pumps;
- Clean up all hydraulic fluid in ram room from wheelhouse cylinder;
- Repair seals in hydraulic cylinder, replace hydraulic fluid in reservoirs, bleed system and make any other repairs to make the elevating wheelhouse operational again;
- Haul vessel and gauge hull for renewal of Great Lakes Load Line Certificate;
- Clean and paint hull, add zinc anodes at time of haul out;
- Prepare and coat all exterior surfaces of hull and deckhouse to stop oxidation;
- Change oil and filters and run main engines and generators with a qualified mechanic present;
- Test all electrical systems with generators running;
- Test HVAC systems with generators running;
- Test propulsion and steering systems;
- Test and repair as necessary all navigation electronics;

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- Replace fire hoses and add nozzles;
- Test towing winch;
- Test face wire winches and bow capstan;
- Prepare and have accepted a Vessel Response Plan;
- Purchase charts and publications for the intended operating area.

The owner had an excellent maintenance program in place which kept the vessel in compliance with industry standard. We note that the ABS had assigned a Great Lakes Load Line Certificate every five years from the mid-1970's. Records indicate that all recommended repairs were made and inspected. The current Load Line certificate expired on September 30, 2010.

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## **VALUATION/RATIONALE**

Subject to consideration of the preceding remarks, and considering the age of the vessel, its condition in comparison to vessels of like size, age and service, and in consideration of the current market, the following estimated values are considered appropriate:

**ESTIMATED FAIR MARKET VALUE:                    \$185,000.00\***

**ESTIMATED REPLACEMENT VALUE:            \$1,700,000.00**

\* The value of the vessel was driven down by the inoperable elevating wheelhouse, the loss of the Great Lakes Load Line Certificate, the unknown hours and operating condition of all of the vessel's machinery and the lack of required publications, documentation and navigational tools.

This report is based on examination of the vessel, and of those parts, spaces and equipment that could be sighted without removals or operation, and is rendered without bias or prejudice. In accepting same, it is agreed that the extent of obligation of this surveyor, with respect thereto, is limited to furnishing a competent survey, and in the making of this report, this surveyor is acting on behalf of the person or firm requesting same and no liability shall attach to this surveyor, for the accuracy, errors and/or omissions therefore.

Naval architecture and marine engineering analysis as usually performed in the design stage of the vessel's construction were not part of this survey and typical subjects such as adequacy of stability and sea-keeping were not within the scope of this survey.

Submitted without prejudice,  
IVY MARINE LLC.

Pat Folan  
Senior Marine Surveyor

Enclosures:    1. Photographs  
                  2. IM, LLC. invoice