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MARINE SURVEYOR

ACCREDITED MARINE SURVEYOR – SAMS #240  
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**REPORT OF SURVEY**

**VESSEL:** HMS "Bounty"  
**OFFICIAL NUMBER:** 960956  
**DATE OF SURVEY:** June 29, 2007  
**PREPARED FOR:** HMS Bounty Organization, LLC

*cell*  
[Redacted]

**VESSEL PARTICULARS:**

- MODEL – Wooden hulled, 3 mast, full rigged ship
- BUILDER – Smith & Rhuland, Lunenburg, Nova Scotia
- BUILT – 1960
- LOWER HULL REBUILT – 2002 at Samples Shipyard, Boothbay Harbor Maine
- SAIL RIG INCLUDING SPARS, RIGGING & SAILS REBUILT - 2005
- UPPER HULL, MAIN DECK & INTERIOR REBUILT – 2006/7 at Boothbay Harbor Shipyard, Booth bay Harbor, Maine
- HULL IDENTIFICATION NUMBER - None
- PRINCIPLE DIMENSIONS – 120' x 30' x 13' draft
- DISPLACEMENT – 500 tons
- ENGINE – twin 6 cylinder John Deere Diesels, new 2003
- LAST DRYDOCK – June 2007 at Boothbay Harbor , Maine
- OWNER – HMS "Bounty" Organization, LLC, P. O. Box 141, Oakdale, NY, Robert Hansen, President
- REPRESENTED BY –Captain Robin Walbridge, HMS "Bounty"

**THIS IS TO CERTIFY THAT** the undersigned surveyor at the request of Robert Hansen, conducted a survey of the above listed vessel for the purpose of determine condition and assessing her fair market value.

**SCOPE OF SURVEY:**

This vessel was most recently examined at the completions of the total rebuild at Boothbay Harbor Shipyard, Boothbay Harbor, Maine on June 29, 2007. During the past 15 months the vessel was examined both internally and externally every two to four weeks during the rebuild process, this survey documents the entire rebuilding of the ship. At the completion of this rebuild the vessel was found to be in **Very Good Condition**. Previously the vessel had been surveyed at Steiner Shipyard, Bayou La Batre, AL on Feb. 22 and 23, 2005 while undergoing modifications by Disney Studios. Prior to that, the vessel had been examined while being down-rigged at Oswego, NY and rerigged at Albany, NY during Nov. 2004, at Greenport, NY after being reengined in 2003, and while hauled out at Samples Shipyard in Boothbay Harbor, ME during the complete rebuild of the hull up to the tween deck level in 2002. In addition, a simplified inclining test was conducted in Greenport, NY in 2003 and later in June 2007 after the installation of a lead ballast shoe on the keel to assess the stability. The stability of the vessel was found suitable for ocean service. The undersigned surveyor served as both naval architect and marine surveyor throughout the rebuild and subsequent upgrading of the vessel over the past five years.

**PRESENT ESTIMATED FAIR MARKET VALUE = \$ 3,900,000**

**ESTIMATED REPLACEMENT COST = \$ 8,000,000 - \$10,000,000**

CG37

*in the water survey*  
*talk to insurance company -*  
*in water survey*  
*if they want an out of water survey*  
RMS Bounty/USCG/12-11-12-009409

**THESE VALUES WERE DETERMINED** by an analysis of comparable vessels using calculated thousands of dollars per long ton to allow comparison with vessels of similar type but differing size and condition. These normalized values were made on a comparison of their displacements (weight) and then adjust for the following:

- (1) Condition of the vessel
- (2) Date of original construction
- (3) Type of construction – tradition wood, composite wood or steel
- (4) Level of Coast Guard inspection if any
- (5) Type of sail rig
- (6) Arrangement

**Comparable Vessels:**

There are no sister ships to the HMS Bounty. There are a few somewhat similar vessels which are listed below. Data was obtained on these vessels from the "American Sail Training Association Directory" (ASTA), 12<sup>th</sup> edition, 2000 and from personal contacts with the help of Captain Robin Walbridge.

Vessel	Dimensions (1)	Displ (2)	Value (3)	\$K/long ton
Niagara	116 x 32 x 11	436	5.0	11.5
HMS Rose	125 x 32 x 13	550	4.5 (1.5*)	8.2
Friendship	104 x 30 x 11	363	7.0	19.3
Tole Mour	123 x 31 x 13	524	2.1	4.0
Kalmar Nyckle	93 x 25 x 12	295	6.0	20.3

\* The HMS Rose sale price of \$1.5M is unrealistically low because of special circumstances involved with the non profit status and agreement to donate her back to a similar organization when the movie company completes its films. \$4.5M is considered to be a more appropriate value.

HMS Bounty	120 x 30 x 13	500	3.2	6.4
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- (1) Dimensions are taken from ASTA Directory in feet
- (2) Displacement is calculated in long tons from the listed dimensions and a block coefficient of 0.37 calculated from the HMS Bounty
- (3) The value is a best estimate based on reported building costs and/or insured value in millions of US Dollars obtained by Captain Robin Walbridge from industry contacts
- (4) Value in thousands of dollars per ton is calculated from columns 2 and 3

**Conclusion:**

The HMS Bounty has been completely rebuilt and upgraded during the past five years. At present she is USCG certifiable as a Dockside Attraction Vessel. When the modifications to comply with USCG requirements for carrying passenger on an Auxiliary Sailing Vessel are completed and USCG Inspection Certificate issued, she should be worth approximately \$4.1M , or \$8,200 per long ton.

She is worth considerably less per ton than either the Niagara, Friendship, or Kalmar Kyckle because each of these vessels is quite new and in good condition. Taken as a whole, these vessels give a good indication of replacement cost of approximately \$8M to \$10M calculated from the average of these three. The HMS Rose is the nearest comparable vessel in size, condition and value at \$8,200 per long ton.

**REFERENCES:**

In conducting this survey the following principle references were used:

- 1. USCG Rules and Regulations for Passenger Vessel under 100 GT, subchapter T
- 2. USCG Regulations, various
- 3. ABS Rules for Building and Classing Wood Vessels, 1942
- 4. Masting and Rigging, Underhill, 1946
- 5. ABYC Standards and Recommended Practices for Small Craft
- 6. NFPA #302 Fire Protection Standards for Pleasure and Commercial Motor Craft

**DESCRIPTION AND LAYOUT:**

The HMS Bounty was built by MGM to film the 1960 version of "Mutiny on the Bounty" with Marlon Brando. After the filming she became a dockside attraction vessel, sailing up and down the East Coast visiting a variety of ports. In 2001 she was purchased by the present owner who has had the vessel completely rebuilt and brought up to a nearly new condition.

The vessel is laid out with a large open main deck with all of the rigging appropriate to an 18<sup>th</sup> century full rigged sailing ship. The tween deck is arranged with a crew's galley and mess area forward behind a new bulkhead. The remainder of the tween deck is set up as public areas with passenger cabins amidships and a great cabin aft. The hold level is divided up into many watertight compartments which include tank rooms, berthing area and engine room to comply with water tight subdivision under the USCG small passenger vessel rules.

**HULL STRUCTURE:**

Keel – 12" x 14" white oak, original

Lead ballast shoe – 9" deep and 20" wide with a length of 64 ft.

Keelson and Sister Keelsons – 12" x 12" white oak

Planking – 3", 5" garboards and wales of white Oak, all new

Framing – double futtock, 12" sided and 6" to 12" molded, 24" on center of white oak, most are new

Ceiling – 3" to 5" white oak

Clamp at tween and main deck levels – two strakes molded 5", most are original of white oak or other hard woods

Shelf at tween and main deck levels – four 6" x 6", most are original of white oak or other hard woods

Deck Beams – molded 9" at centerline, most are original of white oak or other hard woods

Decks – molded 3" with new ice and water shield over covered with ¾" fir most decking

Bulkheads – new watertight bulkheads with 4" x 6" white oak frames and 2 layer of ¾" Marine Plywood

**PROPULSION MACHINERY:** A new twin diesel system was installed in 2003

- Main Engine – John Deere, 6 cylinder, model #6081AFM01, new 2003
- Engine Cooling System – Fresh water cooled through heat exchanger
- Engine Exhaust System – Waterlift metal muffler provided by Applegate
- Reduction Gear – Twin Disc, 6 to 1
- Engine Enclosure – Aluminum construction with sound insulation
- Engine Compartment Ventilation – Natural intake and exhaust
- Propeller Shafts – Two 3.5" Diameter, Aqualoy 22 stainless steel, new 2002 provided by Rose Marine
- Shaft Logs – Galvanized Steel pipe, new 2002 with conventional stuffing boxes
- Shaft Bearing (s) – Rubber cutlass, new 2002
- Propeller – Two 4 Blade bronze, 54" diameter by 42" pitch

**STEERING SYSTEM**

- Rudder – One steel, built 2002 of 3/8" plate to ABS requirements, mounted at rudder post
- Rudder Stock – Steel, 8" pipe
- Type – Block and tackle from steel tiller mounted on rudder stock to wooden wheel, 60" dia
- Number of Stations – One on main deck
- Emergency Steering – Tiller on top of rudder post or steer with twin propellers

**TANKAGE AND PIPING**

- Fuel – 4 main steel tanks, 900 gallon each in the tank room and two 250 gallon steel day tanks in the engine room for a total of 4,100 gallons, all built to USCG standards and inspected during construction in 2002. Fuel transfer system consists of steel pipe, Racor duplex filters, electric transfer pump with manual backup pump and flexible connection at the engine
- Fresh Water – Two Stainless Steel tanks located in the tank room, each approximately 900 gallons for a total of 1800 gallons, fresh water piping in plastic pipe with electric pressure pump and tank
- Cooking Fuel – Electric, 220 vac
- Waste (Sewage) – one 900 gallon steel tank, new 2002 built to USCG requirements and Scienco sewage treatment plant both located in the forepeak, sewage piping in plastic pipe
- Through Hull Fittings Below Waterline – 4 in the engine room and one in the forepeak, all have operable valves, with 2" copper nickel pipe plumbing and flexible hose sections with 2 clamps as required, all new 2003

**RIGGING**

- Rig – 3 mast full rigged ship with coarse, top sail, topgallant and royal on both the main and fore masts. The mizzen has a spanker, top sail, topgallant and royal
- Mast – Solid wood except for lower mizzen which is steel to house original dry exhaust. Each mast consists of Lower mast, Topmast and T'Gallant masts
- Yards, Spanker Boom and Gaff – solid wood, pine and spruce
- Standing Rigging, Stays – steel wire, served with marlin and set up with turnbuckles
- Standing Rigging, Shrouds - Kevlar/Poly lines with dead eyes and lanyards
- Mast Support, Step and Partners – wood construction with masts stepped on the keelson except for mizzen which is stepped on the tween deck
- Chain Plates – Forged iron, custom made in Lunenburg, NS
- Running Rigging, Type and Material – Three strand synthetic lines
- Capstan – Traditional manual vertical capstan mounted on main deck amidships with wood pikes to operate
- Sail Inventory – Full compliment of square sails, stay sails and spanker. Nine sails new at this survey, remaining are in near-new condition, sewn within the past few years of Oceanus cloth

**DIRECT CURRENT ELECTRICAL SYSTEMS – 12 vdc**

- 4 double banks of 8-D batteries located on tween deck and secured against movement.
- Bank #1 – Starting for Stbd Engine
- Bank #2 – Starting for Port Engine
- Bank #3 – Starting for Generator
- Bank #4 – Navigation and Communication Instruments
- DC Wiring – Good condition, all installed in 2002 or more recently
- DC Power Distribution System and Circuit Protection – disconnect switches and circuit breaker/switch panel
- Electrical Monitoring System – volt and amp meters
- Bonding System – three 2' x 8' copper sheets, one under each mast, bonded to all thru hulls and to lightning rods on each mast

**ALTERNATING CURRENT ELECTRICAL SYSTEM – 208 VAC 3 Phase**

- Main Diesel Generators – two 4 cylinder John Deere #4039, 35 kw Marathon Electric Magnaplug Generator
- Main Switchboard – In engine room with main breakers, volt and amp meters

**ALTERNATING CURRENT ELECTRICAL SYSTEM – 120 vac**

- Hotel loads from main switch board to circuit breaker

**ELECTRONIC NAVIGATION SYSTEM**

- Compass – magnetic steering compass, Ritchie Powerdamp
- Electronic compass – KVH model Asimuth 314
- Radar – (2) Raytheons
- Fathometer – (2) Raytheons
- GPS – Megallen
- VHF Radio – (2) Quest & Standard Horizon
- Single side band radio – Icom IC-M700
- Loud Hailer - yes
- Clock and Barometer – yes

**SAFETY EQUIPMENT**

- Personal Flotation Devices (PFD'S) – 50 Adult Type I, 10 Child's Type I
- Ring Buoys with water lights– 3, one with water light
- Inflatable Life Rafts – (2) rafts, one 25 and one 15 man Elliot, serviced 2007
- EPIRB – one class B
- Sound Signals – one electric horn and one air powered horn, 15" bell forward
- Visual Distress Signals – Flares and smoke signals
- Navigational Lighting – 120 vac Aqua Signal
- Life Lines– Bulwarks and Life lines around the vessel perimeter

**FIRE EXTINGUISHING SYSTEMS**

- Portable Fire Extinguisher – 12 Dry chemical B-II (1 @ Operating Station, 3 @ Engine Room, 5 @ Galley, 4 @ tween deck, additional spares stored on board
- Fixed Fire Extinguisher Systems – Portable CO2 plumbed to each engine, manual operation
- Fire Main with hydrants - on main and tween deck with 50' of hose and combination nozzles
- Fire Pump – same as bilge system

**TENDERS/ RESCUE BOAT**

- Description – 13' Whaler with outboard and semi dory

**GROUND TACKLE**

- Stbd Bow Anchor – 1800 lb Navy Stockless
- Port Bow Anchor – 1300 lb Navy Stockless
- Chain and Line, Size and Type – two chain rode of 7/8" stud link chain
- Windlasses – two Electric (208 - 3 phase) 7.5 hp Timberland Equipment with one chain wildcat and one wrapping head, new 2004

**DEWATERING SYSTEM**

- Bilge System – 2" copper nickel pipes from each compartment to bilge manifold
- Electric Pumps – two combination fire and bilge pumps, 7.5 hp each, 208 vac
- Engine Driven Pump (s) – one with hydraulic drive connected into bilge system and one independent hydraulic drive in engine room
- Automatic Pump (s) with Float Switch – None
- Manual Pump (s) – none
- Wood Plugs for all Through Hull Fittings – yes
- High Water Bilge Alarm – one in aft berthing and one in engine room

**TOILET FACILITIES**

- Toilets – two electric flush toilets

- Sewage Treatment System – Scienco model MX5S
- Sinks - two
- Showers – two
- Washer/Dryer – two Maytag

#### GALLEY

- Stove – two electric Frigidare, four burner with oven
- Refrigerators – two Magic Chef with freezers
- Freezer – four chest type, two Kenmore Elite, two Electrolux
- Microwave – two, E-wave and Panasonic
- Sink – Stainless steel, with pressure hot and cold water
- Hot Water Heater – 80 gal electric

#### HEATING AND AIR CONDITIONING – Island Air custom system

#### MISCELLANEOUS

- Oil Placard
- Garbage Placard

**GENERAL CONDITION AND COMMENTS** --- The vessel has been completely rebuilt starting in 2001 when purchased by the present owner. The lower hull up to the tween decks was rebuilt at Samples Shipyard in 2001/2 and limited topside work was done at Lunenburg, NS in 2004. Most of the machinery has been replaced including the entire main engine propulsion system, new anchor windlasses, new tanks, etc. The sail rig was totally disassembled including the removal of the lower masts starting in Nov. 2004 and the rigging has been completely overhauled or replaced with the installation of many new spars, running rigging, standing rigging and sails which was completed prior to this survey. During the past 15 months the vessel was examined both internally and externally every two to four weeks during the rebuild process, this survey documents the entire rebuilding of the ship. During the past five years, the vessel has had a complete upgrading of structure and systems. The below signed surveyor has made numerous recommendations which have been followed. As a result, the vessel is in **VERY GOOD CONDITION**.

#### UNDERWATER HULL EXTERIOR:

The underwater body of the vessel was totally rebuilt during 2001/2002 and was thoroughly inspected, recaulked and a new lead ballast shoe added during the 2006/7 rebuild. During the 2002 rebuild, all of the planking and most of the framing were replaced with high quality white oak with the workmanship completed to high standards. The rudder was replaced with a new steel rudder built to ABS standards including rudder stock, tiller and bearings. New shafts, shaft logs and propellers were installed. The hog was removed from the vessel and a new oak shoe was fitted under the keel.

#### TOPSIDES FROM WATERLINE TO TWEEN DECK LEVEL:

The topsides from the waterline to the main deck level have been totally rebuilt with all new framing and planking during the 2006/7 rebuild. As a result the structural condition of the topsides is in new condition.

#### WEATHER DECK :

The weather deck was rebuilt by replacing all deteriorated wood and then covering the deck with ice and water shield and then installing a ¾ inch thick deck on top of this. The bulwarks have also been replaced. . New hatches covers for the main, tonnage and great cabin hatches have been built by the Artisan Boat Shop, Rockport, Maine. The chart house hatch was rebuilt by the shipyard.

SAILING RIG:

The sailing rig is in excellent condition, having been substantially upgraded during 2005 with additional work being done during the 2006/7 rebuild. The ship was completely down-rigged in November 2005 including the unstepping of all lower masts which were found to be in very good condition. At that time, the undersigned surveyor inspected all the masts, spars and rigging and a series of recommended renewals and repairs was made. Only minor repairs were needed to the lower masts. Two of the tops were replaced and other rebuilt. Two of the top masts were replaced and many of the yards were rebuilt or replaced. The standing riggings and running rigging have been overhauled and/or replaced. The new sails were bent on.

INTERNAL TWEEN DECK :

The tween deck area was found in good structural condition and during the 2006/7 was completed gutted and totally rebuilt with new crew mess, galley and toilets forward, a large open area and passenger cabin are amidships and the great cabin is aft..

INTERNAL HOLD SPACES:

The entire hold area was gutted and completely cleaned out with all deteriorated ceiling planks replaced during the 2002 rebuild of the hull. Water tight bulkheads and deep floors to meet tonnage regulations are partially installed. Their installation is planned to be completed as part of the USCG inspection for carrying passengers on the vessel. The hold is divided into 7 spaces. The forepeak contains the sewage treatment system and tank. Next aft is the forward crew berthing, followed by the store room. Next aft is the tank room with one water tanks and one sewage tank forward and four fuel tanks aft. The aft crew berthing is next. The engine room contains the main propulsion engines, generator, auxiliary equipment and fire and bilge system. The Lazarette contains officers quarters. All of these spaces are functional and in good condition

MACHINERY and ELECTRICAL:

The main engines and all auxiliary equipment were found to be in very good condition, all having been replaced or overhauled within the past few years. The engine room space is clean, well organized and appears to be adequately maintained.

PHOTOGRAPHS:

A series of digital photographs were taken during the survey to document the condition of the vessel and are available upon request

**RECOMMENDATIONS: NONE****CONCLUSIONS:**

This vessel is in essentially new condition after five years spent on the total rebuild of the ship to high standards. The ship has a long history of successful operation and now with her totally rebuilt hull, rig, and new machinery is in Very Good Condition and well suited for Ocean voyaging with up to 12 passengers and up to 150 persons aboard for dockside events.

**ALL REFERENCES AND OPINIONS stated herein are based upon conditions as they appeared to this surveyor at the time of the survey and are reported without prejudice. All due diligence has been used in preparation of this survey, but I cannot be held responsible for errors, omissions, or mistakes in judgment and acceptance of this survey constitutes acceptance of this condition.**

David B. Wyman. P.E., Accredited Marine Surveyor

