Johnson Marine Services LLC

Adrian Johnson

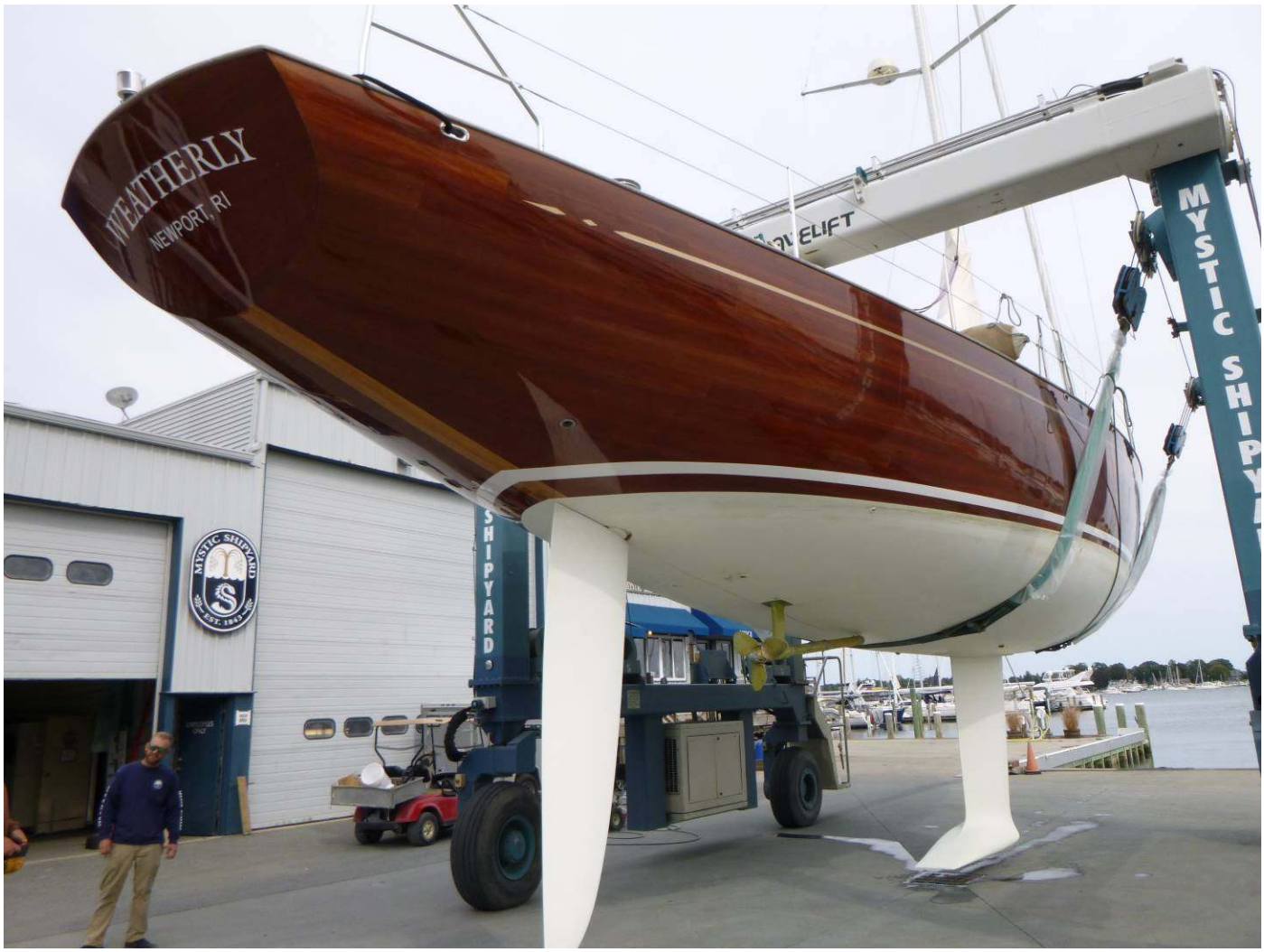
P.O. Box 271, West Mystic, CT 06388

(860) 572-8866 (860) 235-2990

aj@johnsonmarineservices.com

Pre-Purchase Condition and Value Survey of the Sailing Vessel

"Weatherly"



September 25 & 27, 2020

Pre-Purchase Condition and Value Survey

On September 25 & 27, 2020, Johnson Marine Services LLC performed a condition and value survey of the vessel "Weatherly" at the request of Mr. John Duerden. The vessel was located at her mooring in Stonington, Connicut, where it was initially in the water and later taken to Mystic Shipyard where it was hauled for an inspection of the hull, rudder and running gear. A sea trial was also performed at the time of the survey. The survey consisted of an inspection of the accessible sections of the hull, deck, framing, mechanical, electrical, plumbing, and rigging, which are described in more detailed in the following report.

Table of Contents:

1. Survey Information

Date Of Survey: September 25 & 27, 2020

Survey Location: Stonington CT & Mystic Shipyard, Mystic, CT

Weather Conditions: 70° Dry

Vessel Owner: John Duerden

Persons Present: Adrian Johnson, Brian Petri

Survey Requested By: John Duerden

Address: 195 Wamphassuc Point Rd, Stonington CT 06378

Phone Number (m): Email:

2. Vessel Information

2.1 Vessel Specifications, General Condition and Appraised Value

Name of Vessel: Weatherly Registration Number: None Sighted

Hull ID Number: HEN65790A102 Documentation Number: 1267903

Market Value: $825,000 Replacement Value: $3,750,000

Builder: Henze Yachts, Germany Model: 65 Classic Sloop

Model Year: 2002 Designer: Hoek Design, Holland

Type of Vessel: Auxiliary Sail (classic design)

Dimensions: LOA: 65’0” Beam: 13’11” Draft: 9’11”

Weight: 41,489 lb

General Condition of Topsides: Excellent, Sound, Dry, Clear Finish in Excellent Condition

General Condition of House and Deck: Very Good, Teak in Very Good Condition, Well Kept, Sound

General Condition of Hull: Sound, No Soft Areas or Separations Noted, Minor Paint Peeling

General Condition of Interior: Very Good, Well Kept, Clean, Dry

General Condition of Bilge and Engine Compartment: Good, Needs General Cleaning

2.2 Hull, Deck, Hardware, and Ground Tackle

Hull Material: Cold Molded (Mahogany/Epoxy)

Framing Material: Laminate Longitudinal Fir Stringers (3.5cm x 5.5cm, 40cm OC), Interior Laminated Mahogany Frames (5.5CM x 12CM, 70cm on Center), ¾” Mahogany Bulkheads

Deck Material: Composite- Adhered Down Teak Overlay over Balsa Cored Fiberglass Panel

Deck Frames: Laminated Mahogany

Hull to Deck Fastenings: Mechanically Fastened

Superstructure Material: Laminated Wood, Fiberglass Overlay
Keel Fastenings: Stainless Steel Bolts
Keel Type: Fin with Bulb
Ballast Keel Material: Lead Ballast Ballast Keel Weight: 15,565 lb
Rudder: (Appears to be) Carbon Fiber, Foam Cored -verify with builder
Steering Controls: Dynema Cable to Quadrant Sea Cocks: Bronze Ball Valves
Anchor: 60lb Stainless Steel CQR Chain: 3/8" x 50' Stainless Steel +/-
Anchor #2: 20kg Fluke
Anchor Rode: Three Strand Nylon Size: 5/8" x 200'+/-
Dock Lines: 8 Fenders: 6

2.3 Spars, Rigging, and Sails

Rig Type: Sloop
Mast Material: Carbon Fiber by Nordic Mast
Boom: Painted Aluminum
Rigging Material: Stainless Steel Rod
Running Rigging: Yacht Braid
Mast Step: Keel Stepped
Winches: Primary: Genoa - (2) Harken 980.3 Electric
Halyard: (2) Harken 56-2 on Mast
Roller Furling Headstay: Reckmann

Sails	*Age*	*Condition*
Main, North Norlam	Unknown	Good (partially inspected, not hoisted)
Jib, North Norlam	Unknown	Good (inspected from deck, unfurled)
Spinnaker, Asymetrical	Unknown	Not Inspected

2.4 Machinery

Propulsion: 100hp Diesel Engine Cooling: Fresh Water
Make: Yanmar Model: 4JH3-HTE
Serial Number: E20913 Engine Hours: 1293
Reduction Gear: Kanzaki KBW21, 2.62:1 Gear Serial Number: 06510
Engine Controls: Single Lever Push/Pull Cable Propeller Shaft: 50mm Stainless Steel
Propeller: 22" 3-Blade VariProp Propeller Shaft Seal Type: Greased Gland

Shaft Drive System: AquaDrive Thrust Bearing System
Propeller Shaft Seal: Full Bronze Tube with Grease (recommend further investigation on design)
Fuel Tanks: 2 Fuel Tank Material: Stainless Steel
Fuel Tank Grounded: Yes Fuel Supply Hose: Type A-1
Fuel Vent: Type A-1 Fuel Fill: Type A-2
Fuel Capacity: 209L, 90L Fuel Filter: Racor 500MA
Fuel Shut-Off: In-Line Above Filter

2.5 Electrical, Electronics, and Navigation

Electrical System: 12v & 24v DC & 120v AC Shore Power System: 50 Amp
Batteries: House – (6) Group 8D AGM (3/2016), Engine – (1) Group 31 AGM (02/2020)
Battery Cutout Electrical Switch: (3) Disconnect
120v AC Battery Charger: 60 Amp in Inverter Engine Alternator: 24v (not labeled)
Wiring: Multi-Strand Plastic Coated Copper Fathometer: In Garmin System
Compass: Ritchie 6” Knotmeter: In Garmin System
Radar: Garmin GMR18x HD Mast Mount Autopilot: Garmin GHC20 with GHP Reactor
GPS: Garmin GPSmap 7612 Wind Instrument: Raymarine ST60
VHF Radio: Garmin VHF200 SSB Radio: Icom IC-M802
Additional Electronics: AIS600, (2) Garmin GMI20 Displays, GND10, GPS19x, GXM50

2.6 Plumbing, Head, and Galley

Fresh Water Tank: 2 Stainless Steel Fresh Water Fill: Weather Deck
Fresh Water Capacity: 290L, 195L Delivery System: Pressure Hot and Cold
Bilge Pumps: (1) Electric, (2) Manual Gusher
Head Toilets: (1) Electric, Fresh Water Flush Holding Tank: (1) MSD Type 3
Refrigeration: (2) Coolmatic CB-36 Top Load, Built Into Couter Tops
Galley Stove: Schott 2-Burner Countertop (glass) Fuel: 120v AC

2.7 Safety and Coast Guard Equipment

Life Preservers: 8 Type: II Adult
Man Overboard Device: Swtlik MOM E.P.I.R.B.: None on Board
Distress Flares: Orion Expiration Date: September 2022
Discharge of Oil Placard: Yes MARPOL Trash Placard: Yes
Fire Extinguishers: 3 Type: ABC Dry Chemical

Navigation Rules: Printed, In Navigation Station
Carbon Monoxide Detector: None

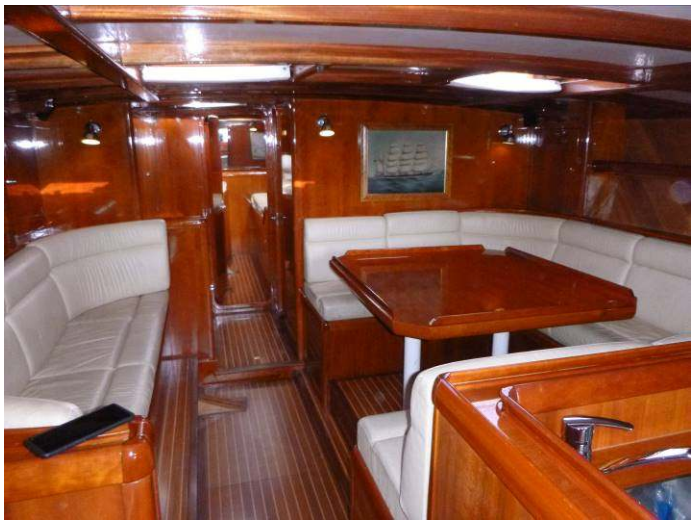
2.8 Additional Equipment

1. Lewmar Electric Anchor Windlass
2. Mainsail Cover
3. (1) Zone Salon Air Conditioning by Dometic, 12,000 btu
4. Fusion MS-AV650 Stereo
5. Mastervolt 24/2500-60 Inverter/Charger
6. Hydraulic Boom Vang & Backstay by Sailtec Vang, Navtec Backstay
7. Large Medical Kit
8. Isotherm 10 Gallon Water Heater
9. Victron 24/12 DC-DC Converter, 25 Amp

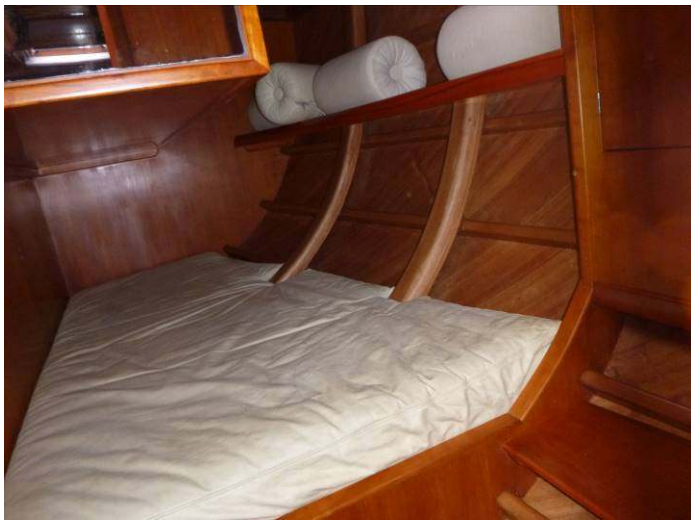
3. Design and Construction

The vessel "Weatherly" is a custom composite/cold molded auxiliary sailing vessel designed by Hoek Designs and built by Henze of Germany for model year 2002. She is designed primarily for use on inland and coastal waters, and has some offshore capabilities when properly equipped, captained and crewed. The interior of the vessel consists of a main salon with settee and dinette table forward to starboard, settee forward to port, navigation station aft to port, and galley aft to starboard. Forward of the salon is the master stateroom with single berth to port and double to starboard in the V, with a head and integral shower just aft to starboard. Aft of the salon are two quarter-cabins to port and starboard with double berths. Forward of the cockpit is the house, with settee's to port and starboard. Her cabin sole is constructed of teak plywood laminate panels and the majority of the interior finishes are varnished mahogany. There are cushions on all bunks, which were in physically good condition at the time of the survey but the leather is older and has some light staining in areas. She has overnight accommodations for 8-10 people and ample storage room. She is constructed with one marine head and a USCG approved MSD type 3 sanitary system. The vessel has a full galley with a stove, sink, and two built-in refrigerated ice boxes. Her water supply is fed from two tanks totaling 300 liters, which is pressurized in the head and galley by a 24 volt pressure actuated pump. The vessel is also equipped with a hot water heater, which can be heated with an 120v AC element in the tank and by circulating hot water from the engine. The vessel is equipped with all USCG required safety equipment for a vessel of her size (unless otherwise noted below).

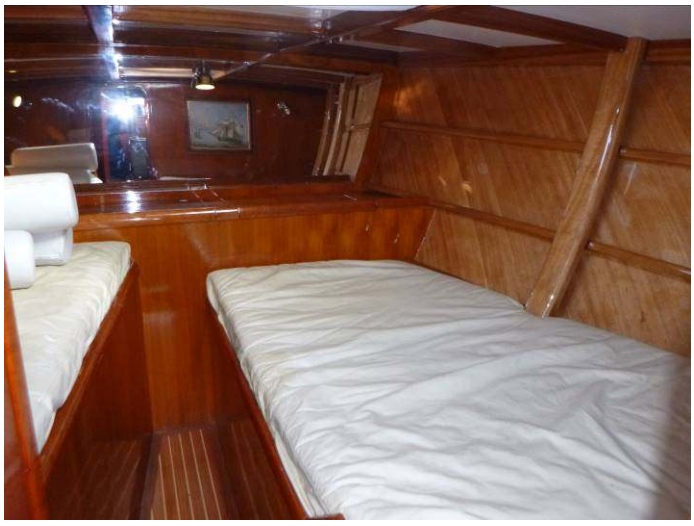
The vessel as a whole was constructed using quality workmanship and marine grade materials throughout. The main construction material in her hull, deck, and superstructure is cold molded mahogany with interior layers at 45º/45º and the exterior layer horizontal. The deck of the vessel is constructed with what appears to be cored fiberglass with an adhered down teak overlay. This was done to minimize the weight of the vessel while maintaining strength. In addition to the sails, the vessel is powered by a Yanmar 100 horsepower diesel engine. The engine has 1293hours recorded on the meter, which appear to be consistent with its visual and running appearance.



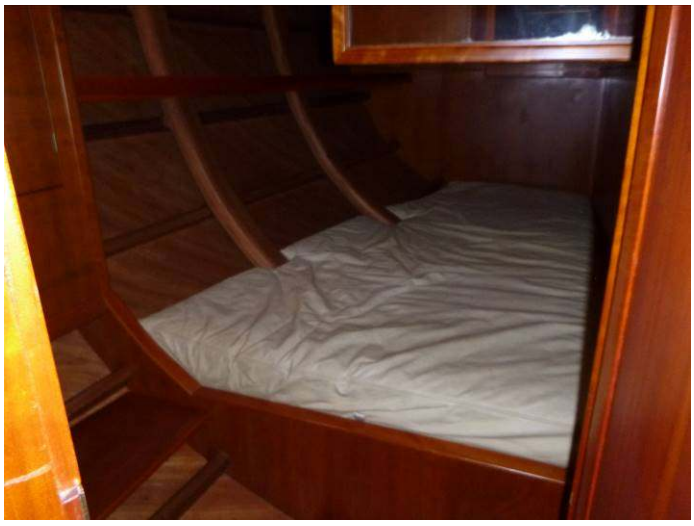
Salon



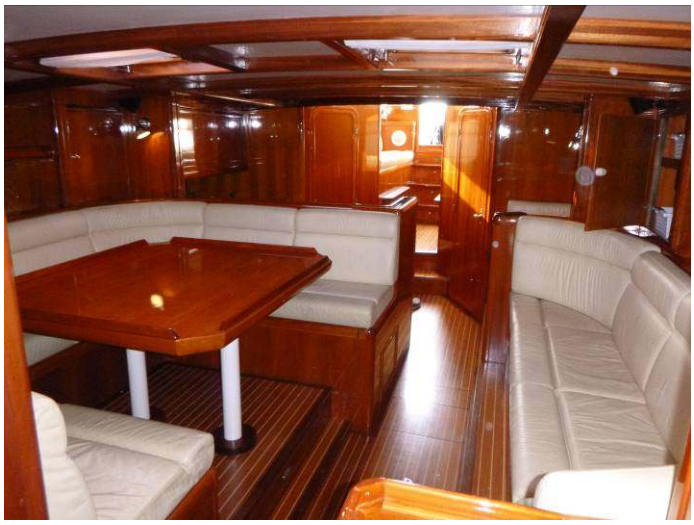
Port Cabin



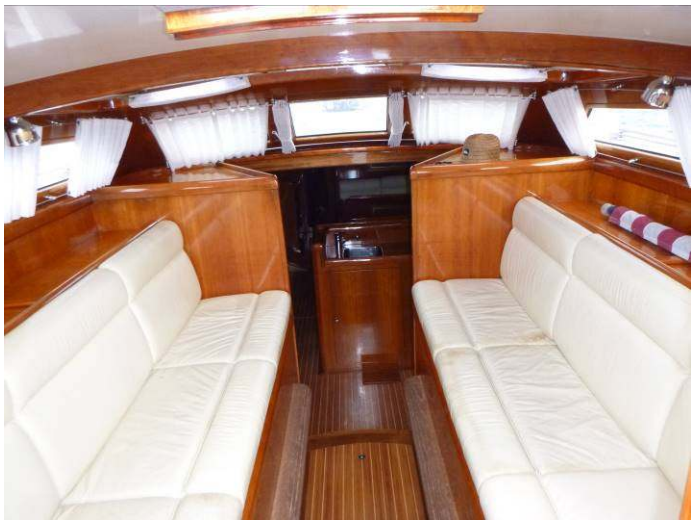
Forward Stateroom



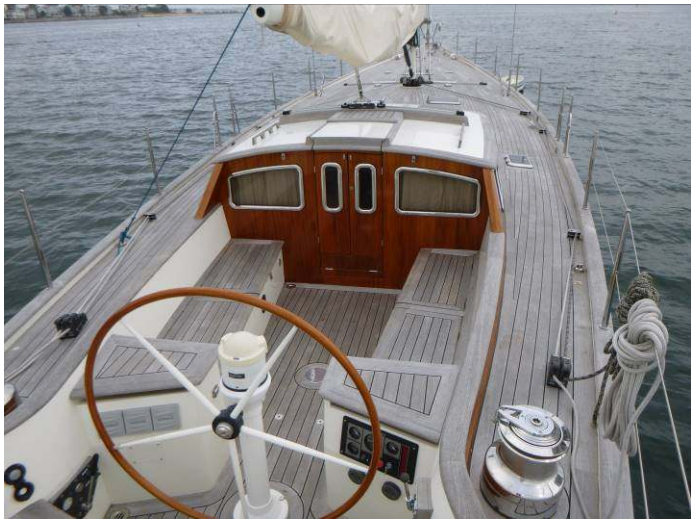
Starboard Cabin



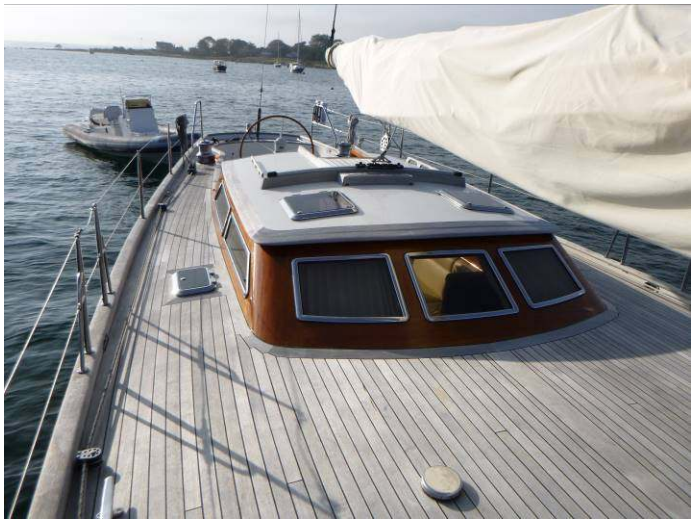
Salon



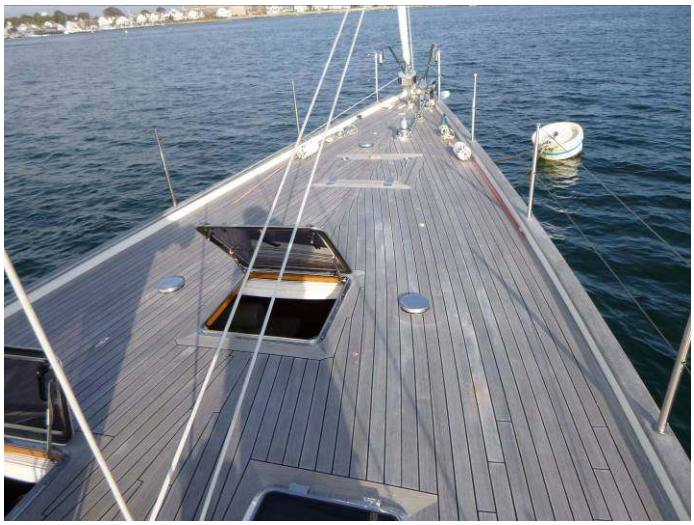
House



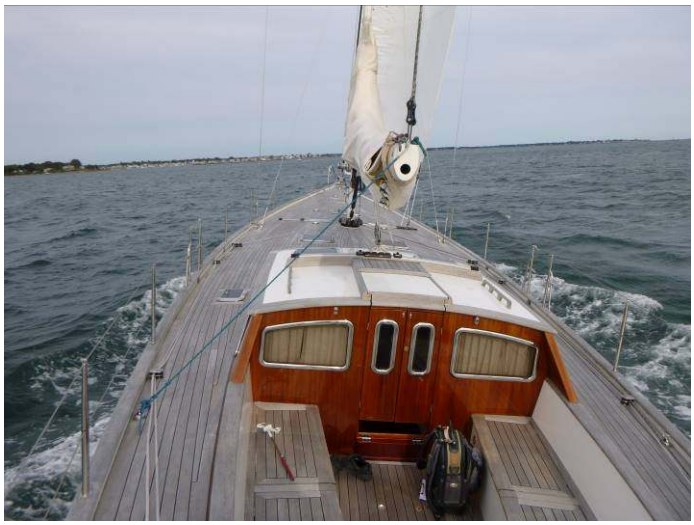
Cockpit



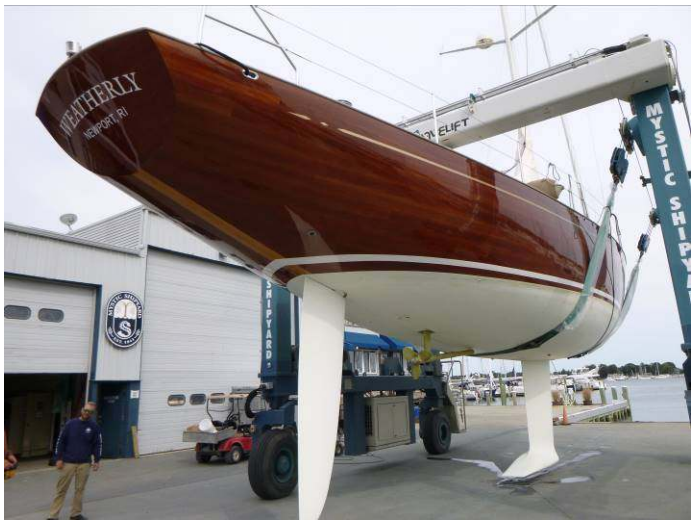
Deck & House



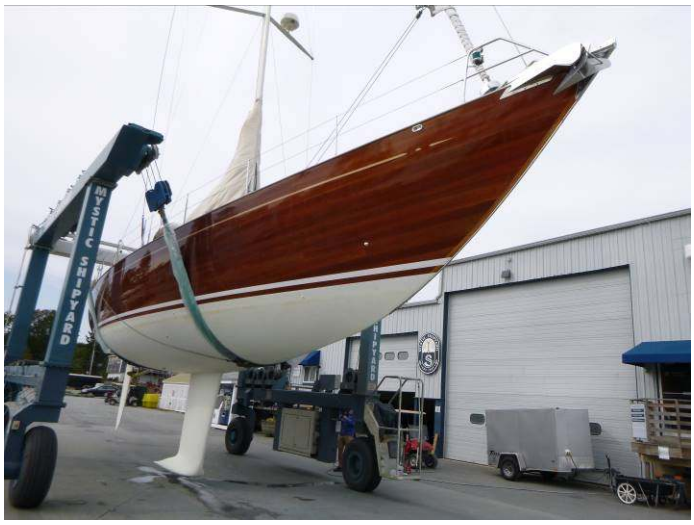
Deck



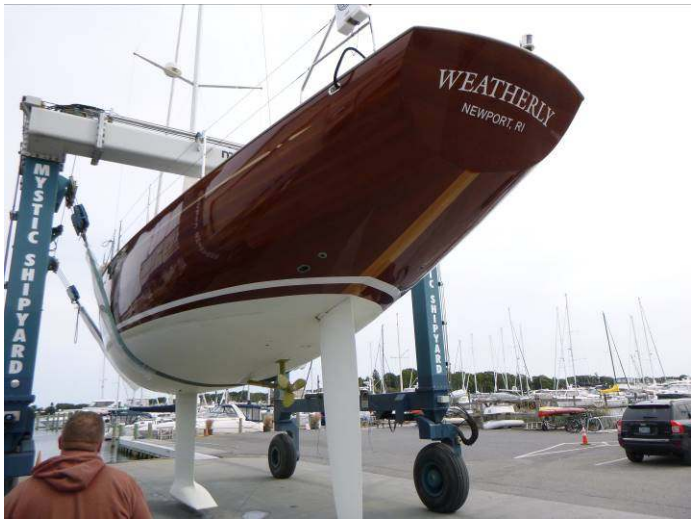
Cockpit



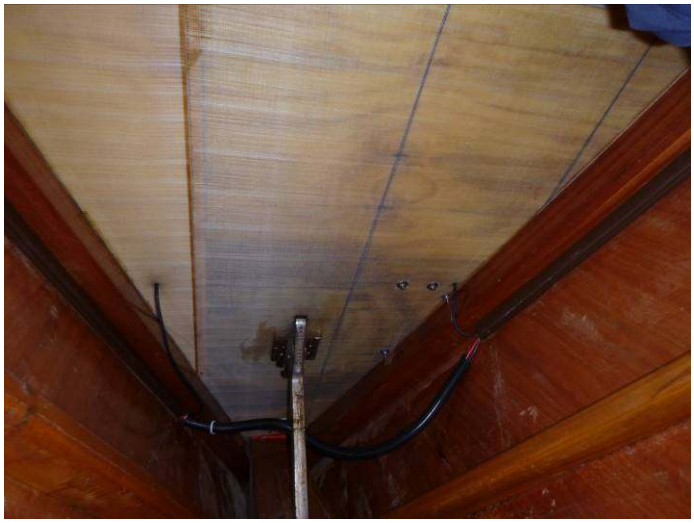
Aft Starboard Hull



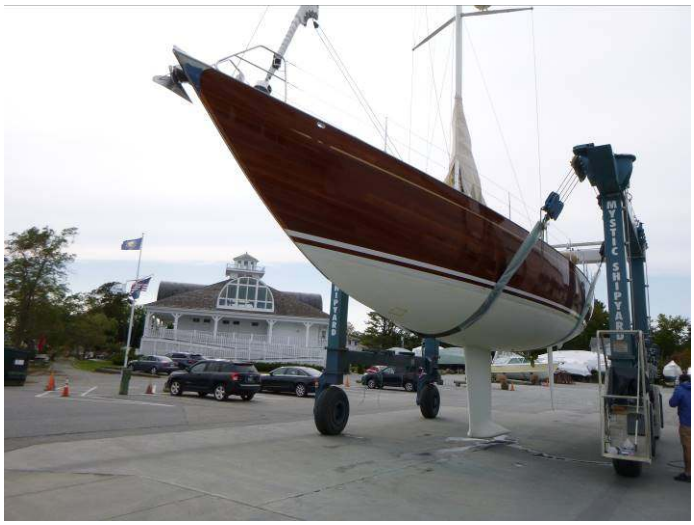
Starboard Bow



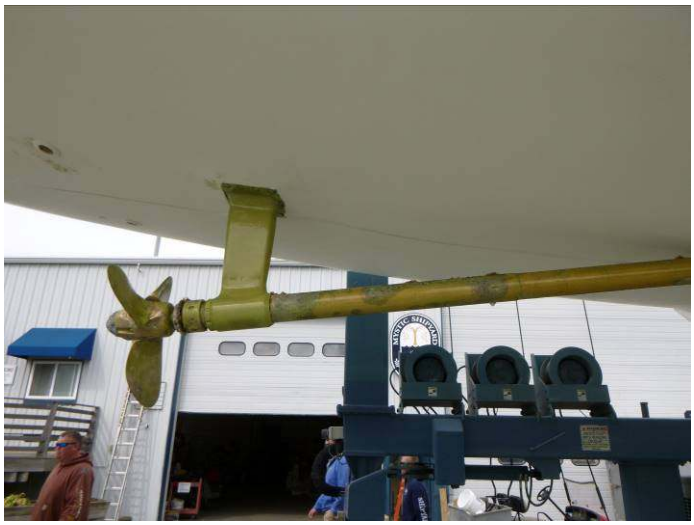
Aft Port Hull



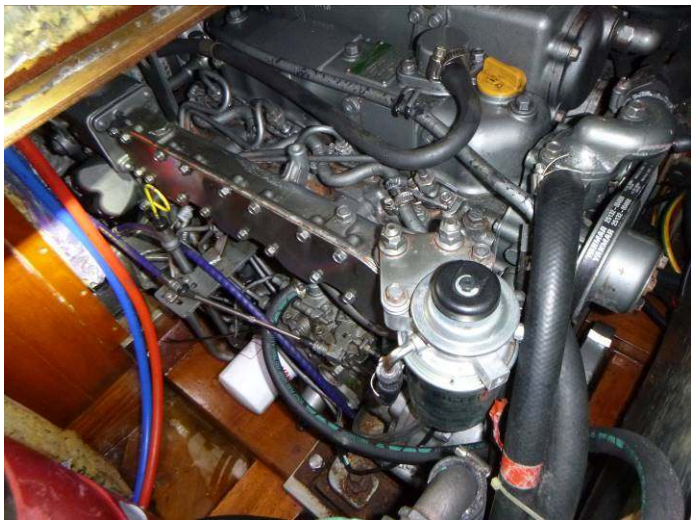
Underside of Forward Deck



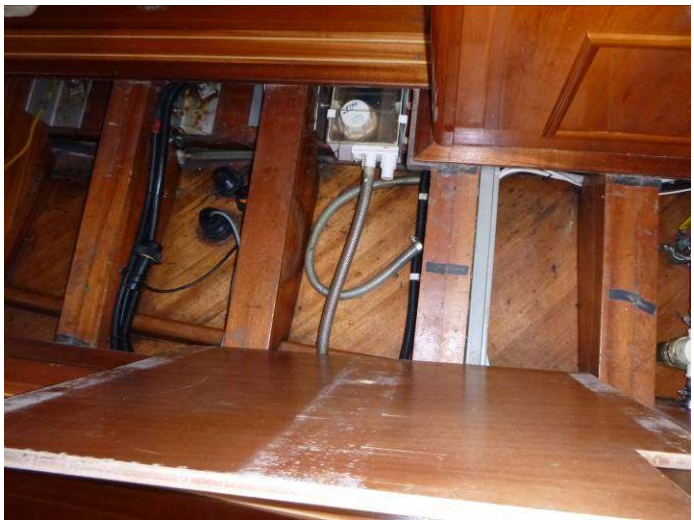
Port Bow



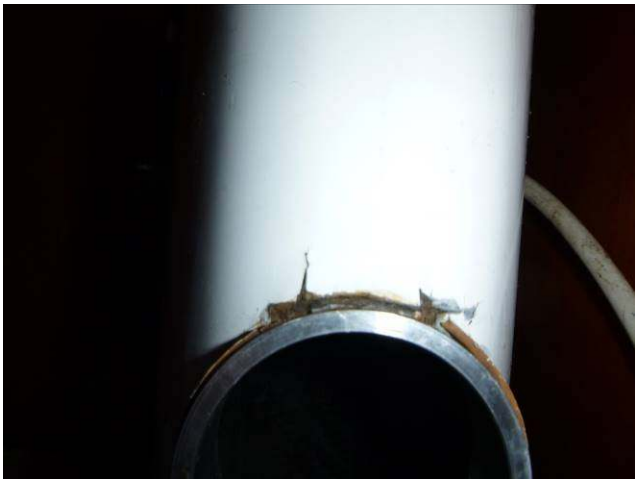
Propeller



Engine



Salon Bilge



Mast, perimeter of sleeve for mast jacking pin near base

4. Scope of Survey

The survey of the vessel consisted of both an in and out of the water examination. During this inspection, sections of the hull and deck were sounded with a hard mallet to determine the soundness of the structure and it's laminates. An Aquant Protimeter non-destructive moisture meter was also used in areas to check for excessive moisture in areas of the hull (where dry) and deck (where not covered with teak and on underside of forward deck). The dry range for moisture readings was between 70-180 relative moisture on the meters scale of 0-999, which well within acceptable limits. If elevated readings are noted below, they were comparing to these dry readings. It should be noted that due to the nature of non-destructive testing, there is no guarantee of the true condition of the laminates unless core samples are taken and lab tested. The construction / laminate schedule of this vessel makes moisture testing and other means of non-invasive electronics testing difficult and limited in value, although percussion sounding seemed to have favorable

results. The vessels rudder and bearings were also inspected. On the deck of the vessel all deck hardware and other equipment was inspected where accessible.

On the interior portion of the vessel, all lockers were opened, floorboards removed, and drawers opened to check interior spaces and structure where accessible. No fastened or fixed joinery work or interior liners were removed and are not covered in the scope of this survey. The steering system was also inspected where accessible while dockside and during the sea trial.

The vessels rigging was visually inspected from the deck with the mast stepped. The mast, boom, shrouds, and halyards were all visually checked at this time. It should be noted that due to the rig being stepped at the time of the survey, the elevated sections of the rig were not closely inspected. As the case with all sailing vessels, it is recommended that the elevated sections of the rig be inspected frequently. It should also be noted and understood that the rigging was visually inspected only, and the true strength of the rig was not tested in any way. This being the case, the surveyor suggests repair or replacement of parts of the rig when appropriate, but cannot guarantee the performance and strength. Due to the rigging on this vessel, a full rigging survey is recommended. The jib was unfurled and visually inspected from the deck, but the mainsail was not inspected as part of this survey.

The vessels engine was run for a period of 2 hours while on sea trial and at the dockside portion of the survey. During this time, all belts, hoses, and fluids were checked. The fuel and exhaust systems were also visually inspected where accessible. The engine and engine compartment as a whole were inspected for general condition, evidence of leaks, and other evidence of necessary maintenance. An infrared thermal scan of the engines heat exchanger, head, manifold, and riser was also performed utilizing a *Flir* infrared thermal imager. All temperature readings were within normal limits unless otherwise noted below. During the sea trial, all gages equipped on the vessel were also watched to ensure normal operation. The engine reached 3940 rpm’s during full throttle operation (rated 3800 minimum), with a maximum engine temperature of 168°. During this time, the engine ran smoothly and did not smoke.

A visual and metered inspection of the vessels electrical system was also performed at the time of the survey. All electrical wires, batteries, switches, and fixtures were inspected for proper installation and maintenance as required. On the AC electrical system, all outlets were checked for GFCI devices and operation as required. All electronics and navigation equipment was powered on and operated when possible. The batteries were visually inspected, but were not tested at the time of the survey. All cabin

lights and equipment listed in the "additional equipment" section above was operated where possible. The electric winch and windlass were run (with a genoa sheet load) and sounded normal.

The vessels plumbing systems were also visually inspected and operated where possible. The tankage was visually inspected where accessible (but not tested in any way). The air conditioning system was run in cooling mode and functioned normally. All USCG safety required equipment was also checked for approval and expiration as required.

5. Recommendations

All of the above was found in satisfactory condition for a vessel of this age unless otherwise noted below.

* Indicates 1st priority items - Those which may be structural, safety, or coast guard related

** Indicates 2nd priority items - Non-priority (but may be significant or notable) findings

*** Indicates 3rd priority items - Smaller, low priority work-list type or common deficiencies

5.1 Safety and Coast Guard Equipment

**1 The fire extinguisher in the head was manufactured by Kidde and is included in a recall.

**2 The operator should not that this vessel is not equipped with an automatic fire extinguishing system in the engine compartment. Although not required by law, the installation of a system is suggested.

**3 Although not required by federal regulations, ABYC standards recommend that all vessels with an interior cabin area be equipped with a carbon monoxide detector in each enclosed cabin.

5.2 Hull, Deck, and Hardware

*1 The forward deck appears to have water intrusion into the core from around the headstay chainplate. Discolored core, elevated moisture readings and some soft laminate was noted when percussion sounding from the underside of the deck in the forward locker (see photo). It appears that water has leaked by the chainplate at the stem and migrated aft approximately 6', with soft laminate in the forward 3' of this area. Although not immediately necessary, repair is suggested (likely from the underside of the deck).

*2 The steering cables were excessively loose and should be tightened. The cables are made of Dyneema, and creep is typical and requires frequent adjustment.

**3 When surveying the hull of the vessel, (2) fine cracks were noted in the outer laminates of the hull forward of the keel. The cracks extended about 3' on the starboard side and 18" on the port side, and

seemed to be slightly proud. It is recommended that the exterior layer of fiberglass be ground and the underlying wood be inspected and allowed to dry if needed prior to reapplying fiberglass.

**4 A small amount of water was seeping past the rudder post seal during the sea trial. Service to the seal is recommended.

***5 A small dry void was noted in the port side of the hull approximately 10' aft of the waterline 1' outboard of the stem. The void was small (5" x 10"), and was likely created during construction. Repair is not felt to be necessary.

***6 Some evidence of previous chainplate leaks were noted in areas on the interior of the vessel. No current leaking was noted, but it is recommended that they be monitored and re-bedded if any leaking is noted.

5.3 Spars, Rigging, and Sails

**1 Some scuffing was noted in the chrome on the boom vang piston, and the dust cover is damaged. Service to the vang is recommended.

**2 Some small cracks were noted in the reinforcing of the mast just above the sleeve for the mast jacking rod (where it passes through the mast when installed – see photo). The condition visually appears to be in fairing below the paint, but it is recommended that a rigger inspect the area.

5.1 Machinery

**1 The tachometer was not operational at the time of the survey. The tach intermittently showed about 50% of actual rpm's.

**2 There is a notable amount of rust on the aft port engine mount, which appears to be from a previous leak. It is recommended that the mount be cleaned and painted. Adjustment is not typically required due to the Aquadrive system, and replacement is not felt to be necessary at this time.

**3 Some diesel fuel odor was noted in the upper cabinet outboard of the aft end of the starboard settee. The compartment houses the fuel fill hose deck fitting and upper portion of the fuel hose. It is recommended that the condition be further investigated to check for proper venting or a possible leak in the fill hose.

***4 It should be note that the dip-stick in the transmission had been overtightened and could not be removed with an 8" wrench. It is recommended that the plug be removed to check the fluid.

***5 The engine exhaust system does not appear to have a high rise is the hose forward of the discharge location in the aft hull, which may allow seawater to backflow into the system in certain sea conditions. It is recommended that a mechanic review the exhaust design and modify if necessary.

5.2 Electrical, Electronics, and Navigation

**1 The wiring for the electric winches in the cockpit is hanging un-supported over longer sections below the cockpit. It is recommended that the wiring be properly secured /supported every 16" per ABYC standards.

*2 The backside of the 120v AC electric panel is in a shared compartment and is exposed. It is recommended that a protective shield or cover be installed over all exposed AC terminals as required by ABYC standards.

**3 The terminals on the engine battery, below the galley sink, are exposed in the compartment and should be covered per ABYC standards. This may be done with rubber terminal boots, but a proper box is suggested due to the location of the battery.

5.3 Plumbing, Head & Galley

*1 The bilge pumps in the forward deck locker are plumbed in parallel with no means of backflow between them, and discharge overboard without a proper anti-syphon loop. It is recommended that the system be re-plumbed with proper anti-syphon protection.

**2 There was some waste system odor below the vanity counter in the head, typical of older hoses. It is recommended that the hoses be replaced and the area be cleaned up.

***3 Some evidence of previous water leaks were noted by the drain hoses for the head sink. It is recommended that the hoses and clamps be replaced.

***4 The condensate pump box for the air conditioning was not working and the discharge hose is not attached. It is recommended that the system be serviced to help keep the bilge dry.

***5 A small water leak was noted on a hot water hose below the water heater. The exact origin of the leak was not determined and should be further investigated.

6. Conclusion

Upon completion of the survey, the vessel "Weatherly" appears in overall very good condition and shows to have been well kept. She has been used primarily as a pleasure cruiser and has been relatively lightly used for her age, and overall appears to have been maintained in above average condition. Based on the condition of the vessel and the equipment on board, the vessel has a current market value of approximately $825,000 as equipped, and has a replacement value (new) of $3,750,000. The "Soldboats" database may also have been used as a guide in this assessment comparing to other sailing vessels of similar size and caliber.

Acceptance and use of this report by the client acknowledges the client's understanding that the report has been composed of information that is believed to be true after reasonable investigation and inquiry but is not warranted to be so. The information was obtained without drilling, diving, ultrasonics, cleaning or opening up to expose parts or conditions ordinarily concealed. There were no tests for tightness or soundness conducted other than the conditions noted visually.

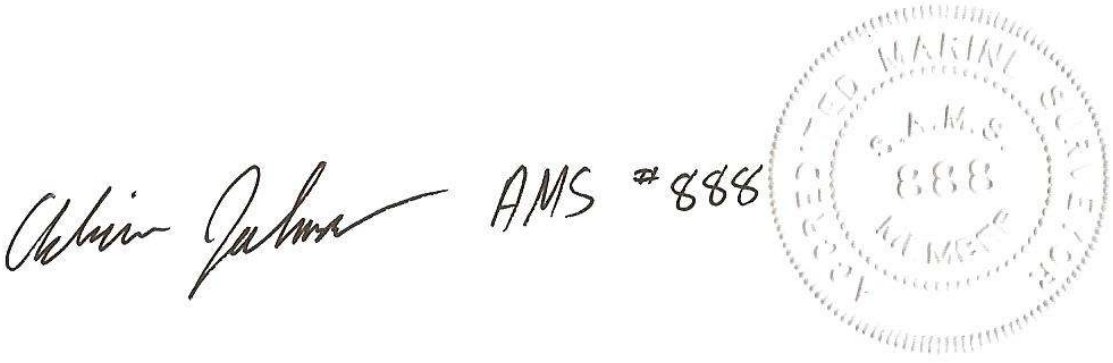
Acceptance and use of this report acknowledges the client's understanding that no determination of stability or structural strength has been made and no opinion is expressed.

Acceptance and use of this report acknowledges the client's understanding that Johnson Marine Services LLC does not accept any responsibility for damage or deterioration not found or discovered during the course of survey, nor for consequential damage, deterioration or loss due to any error or omission.

This report is submitted without prejudice and is for the exclusive use of John Duerden. Upon issuance of this report, Johnson Marine Services LLC reserves the right to amend the survey report given new or updated information about the vessel or anything contained in this report. This report is in no way to be misconstrued as a warrantee or guarantee of the vessel or its equipment therein. This survey details the condition of the vessel at the time of the survey and represents the undersigned's unbiased opinion but by submitting this survey does not hold the surveyor liable for any reliance on information based on this survey.

Respectfully Submitted,

Adrian Johnson AMS #888



Adrian Johnson AMS #888
Marine Surveyor

Member: SAMS, ABYC