

REPORT OF MARINE SURVEY

OF THE VESSEL

"Aquarius"

CONDUCTED BY

Mark Corke
Yacht and Marine Surveyor

MEMBER OF SOCIETY OF ACCREDITED MARINE SURVEYORS

PREPARED EXCLUSIVELY FOR:
Mr M Gable and Mr A Thompson
June 29th 2012

File #10170

INTRODUCTION

SCOPE OF SURVEY

Acting at the request of Mr. M Gable and Me A Thompson the attending surveyor did attend on board the "*Aquarius*" beginning on 6/29/12 where an in and out of the water survey was conducted in Winthrop, Massachusetts. The ship's papers were not on board at the time of the survey. The Hull Identification Number (**HIN**) was verified from the transom. A sea trial was also performed. An out-of the water inspection of underwater machinery and the exterior of the hulls wetted surface area was performed. The reason for the survey, was to ascertain the physical condition and value of the vessel. The survey was for pre purchase condition and valuation purposes only.

This vessel was surveyed without removals of any parts, including fittings, tacked carpet, screwed or nailed boards, anchors and chain, fixed partitions, instruments, clothing, spare parts and miscellaneous materials in the bilges and lockers, or other fixed or semi-fixed items. Locked compartments or otherwise inaccessible areas would also preclude inspection. Owner is advised to open up all such areas for further inspection. Further, no determination of stability characteristics or inherent structural integrity has been made and no opinion is expressed with respect thereto. This survey report represents the condition of the vessel on the above dates, and is the unbiased opinion of the undersigned, but it is not to be considered an inventory or a warranty either specified or implied.

CONDUCT OF SURVEY:

THE MANDATORY STANDARDS PROMULGATED BY THE UNITED STATES COAST GUARD (USCG), UNDER THE AUTHORITY OF TITLE 46 UNITED STATES CODE (USC); TITLE 33 AND TITLE 46, CODE OF FEDERAL REGULATIONS (CFR), AND THE VOLUNTARY STANDARDS AND RECOMMENDED PRACTICES DEVELOPED BY THE AMERICAN BOAT AND YACHT COUNCIL (ABYC) AND THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) HAVE BEEN USED AS GUIDELINES IN THE CONDUCT OF THIS SURVEY.

The use of the word "appears" is intended to indicate that a close or complete inspection was not possible or it was not deemed appropriate at the time of this survey. The deficiencies reported herein reflect the conditions observed at the time the survey was conducted.

General specifications

FILE NUMBER:	10170
SURVEY PREPARED FOR:	Mr M Gable
NAME OF VESSEL:	Aquarius
TYPE OF SURVEY:	Pre purchase
OVERALL VESSEL RATING:	Good
ESTIMATED MARKET VALUE :	\$50,000
BUILDER:	Blackfin yachts
YEAR BUILT:	1989
MODEL OF VESSEL:	29
HULL IDENTIFICATION NUMBER (HIN) :	KMA29173A989
HOME PORT:	Winthrop, MA
HAILING PORT:	Boston, MA
USCG DOCUMENTATION NUMBER :	1171000
USCG DOCUMENTED FOR :	Pleasure
STATE VALIDATION STICKER NUMBER :	MS
OWNER'S NAME:	Edwin Kellog
OWNER'S ADDRESS:	5 Moore Circle, Bedford, MA
PLACE OF SURVEY:	Boston, MA
DATE/TIME OF SURVEY:	June 29 th 2012
HULL MATERIAL:	FRP (Fiber Reinforced Plastic).
HULL TYPE:	Planing
LENGTH OVER ALL (L.O.A):	29'4"
BEAM:	10'6"
DRAFT:	2'9"
GROSS TONS:	7.5
PROPULSION SYSTEM:	Twin Inboard engines
FUEL TYPE:	Diesel
FUEL CAPACITY:	200 est
AC POWER:	30 Amp
DC POWER:	Yes, 12 volt.
FRESH WATER CAPACITY:	30 est
HOLDING TANK:	20 galls est



DEFINITION OF TERMS

Aquarius Surveyed on 6/29/12

The terms and words used in this report have the following meanings as used in this *Report of survey*:

APPEARS:

Indicates that a very close inspection of the particular system, component or item was not possible due to constraints imposed upon the surveyor (e.g. no power available, inability to remove panels, or requirements not to conduct destructive tests).

FIT FOR INTENDED USE:

Use which is intended by Survey Purchaser(present or prospective owner).

SERVICEABLE: ADEQUATE:

Sufficient for a specific requirement.

POWERS UP:

Power was applied only. This does not refer to the operation of any system or component unless specifically indicated.

EXCELLENT CONDITION:

New or like new.

GOOD CONDITION:

Nearly new, with only minor cosmetic or structural discrepancies noted.

FAIR CONDITION:

Denotes that system, component or item is functional as is with minor repairs. (MONITOR OFTEN)

POOR CONDITION:

Unusable as is. Requires repairs or replacement of system, component or item to be considered functional.



Aquarius

GENERAL DESCRIPTION

This vessel is further described as a 29' fiberglass sport fisherman that was built in 1989 . The vessel was built by Blackfin Marine who built a variety of yachts up to 40 before closing for business in 1997. The vessel has the builders assigned hull #KMA29173A989 and is currently USCG registered with the number 1171000 The vessel is typical of boats of the sport fishing type and has a large open fishing cockpit and forward cabin. This vessel has an added welded aluminum radar arch and tuna tower which can also be used for holding fishing rods. A very popular sport fishing boat from a respected production powerboat builder. The owner has maintained the vessel in good order and she shows well.

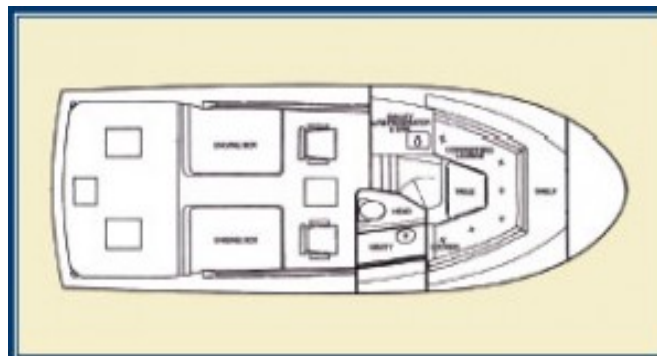


VESSEL LAYOUT

The layout of the vessel is as follows; large open cockpit at the rear of the vessel surrounded by wide side decks and deck across the top of the transom. Engine access is via manually operated opening hatch covers in the cockpit sole which also double as bench seats. An aluminum tuna tower which supports the radar scanner, upper helm and antennas is bolted to the vessel and this also supports the lower helm hard top and curtaining. Engine controls, compass and navigational instrumentation is provided at the helm station.

Companionway from cockpit leads to the main saloon at the after end of which is an enclosed heads compartment with an electric head on starboard side. The galley area is opposite this on the port side and includes a fridge, sink, electric cook top and provision for a microwave which is not fitted at this time. The main seating dinette area is to forward. There is a high lo table situated between the cushions and an this supports ab infill cushion to covert to a double berth.

The large sweeping foredeck contains an opening deck hatch to give light and air to below. There was a 25 pound Danforth style anchor mounted on the bow roller/ bowsprit with a deck hawse pipe to below which can be raised and lowered manually as no windlass is installed. Steering is via a 'Hynautic' hydraulic steering system to twin outboard rudders bolted onto the transom and this appears in good condition, but see notes for additional comments.



HULL CONSTRUCTION DETAILS

The hull is constructed of solid FBG (fiberglass) laminates with reinforcement in the way of bulkhead attachment points and other structural details. The hull and deck are finished with gel coat and there are non skid surfaces on the high traffic areas of the deck to aid crew safety. The deck is constructed of solid and cored FBG laminates with solid sections in way of stanchions, cleats and other attachments. The hull to deck joint is attached both mechanically and with 5200 adhesive sealant, all of which appear satisfactory at this time. All safety rails are aluminum handrails. Lower hull sections have molded and bonded fiberglass pan liners, stringers and frames. The vessels plumbing, wiring and tankage are to safety codes and to ABYC/NFPA/USCG requirements throughout, unless otherwise noted, see notes.

PROPULSION

The boat is powered by a pair of Volvo Penta freshwater cooled diesel engines driving through reduction gearboxes of 1.9 to 1 ratio, traditional shaft seals/stuffing boxes and stainless steel propeller shafts of one and a half inch diameter and three bladed bronze props of 19 inch diameter and 19 inch pitch. Cutlass bearings were checked with the boat out of the water and all appeared satisfactory.

The engines have been rebuilt at different times in the recent years and I am uncertain as to the exact amount of running hours since that time

It was noted that the water pump on the starboard engine appears new. The numbers on the engines have been obliterated and I was unable to record the numbers but these should be listed on the service records for the engines.

Both engines are mounted on soft engine mounts which appear in good condition at this time. Access to the engines is garnered by raising the hatch covers in the cockpit sole which allows for routine checks and servicing. There were no oil leaks or other visible maladies present at the time of inspection save for those mentioned in the notes and corrections section of this report

Fuel is fed to the engines from a single aluminum fuel tanks, through fuel filter/water separators thence to the engine intakes. The fuel system appears well maintained and in compliance with ABYC guidelines. Bennett trim tabs are operating, all of which appear satisfactory at this time.



ELECTRICAL SYSTEM

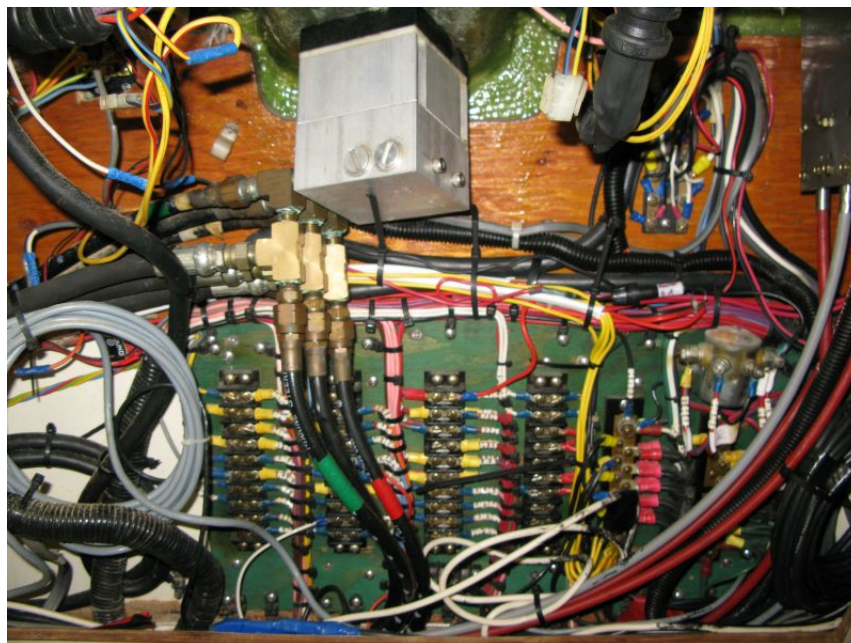
The electrical system on this boat was simple and straightforward and consists of a breaker style panel. Batteries are mounted under the cockpit sole in the forward locker space between the engines with double battery isolation switches of the 1,2,both variety which are operational. These batteries power lights, navigational electronics and other requirements. Additionally the batteries also supply starting current- for the engines. In general the electrical system is in excellent condition. Lights were operated as appropriate and all appeared serviceable at this time. There is separate panel for AC shore power in the saloon and it was noted that this appears in good serviceable condition. The panel was not energized at the time of inspection as 30 amp shore power was not available however the system appears well maintained and suitable for it's intended purpose. The boat is also fitted with a Newmar 20 amp battery charger and this appeared in good operating condition. There are three bilge pumps on the vessel; on in the accommodation space bilge, one in the forward engine space and a third aft inside the transom. All appear correct at this time, working.



DC/ AC panel



20 amp battery charger



GALLEY

The galley has a Formica counter top with inset sink and double 'Princess' burner electric cook which lifts to reveal a pressure alcohol stove underneath. There is also a space for a microwave although this is not fitted at this time. A small R2600 Nova Kool dual voltage fridge (12/115) volts is mounted under the work top and is working correctly.



TANKAGE

There is one aluminum fuel tank which is bonded into position and located into the center part of the bilge abaft the engines. Connections and hoses are generally in good condition but refer to notes and corrections section for additional information and corrections suggested.. It was also noted that this tank was correctly vented and although I was unable to see if it is bonded as no bonding connection was readily apparent.. Inspection showed that the electrical connection to the tank was a little corroded and should be removed, cleaned and replaced. There is one freshwater tank on the boat and this has an estimated capacity of 30 gallons. This tank is situated below the cabin sole forward of the port hand engine is constructed of aluminum and appears in good serviceable condition. Likewise the holding tank is also plastic and appears good. There is a deck pump out and a macerator pump for overboard discharge when circumstances allow it.

MARINE SANITATION

There is one electric head installed on the vessel which is correctly installed and complies with USCG regulations, there is no Y valve but a macerator pump is installed which allows out to sea discharge when circumstances allow this. The toilet appears as new and it is understood that this was replaced a short while ago and the general appearance of the head would bear this out.



BILGE PUMPS

Bilge pumps (3) are situated fore and aft on the vessel and were tested and found to be operating correctly. They can be operated from the helm position and are also equipped with automatic switches of the solid state type.



GROUND TACKLE

Mounted on the short bowsprit is a #25 Danforth anchor shackled to approximately 100 foot of nylon rode. The anchor is plenty large enough for this vessel and should do well in most situations but for additional holding I would recommend installing 25 to 30 feet of suitable chain between the anchor and rode.



NAVIGATION EQUIPMENT

A Danforth Constellation compass is fitted forward of the helms and appear to be in good order although you may want to have the compass professionally swung and a deviation card produced . The vessel is also equipped with a Raymarine VHF set, Furuno open array radar with monochrome display, Furuno multi function display for depth and chart information, a Simrad AP 26 autopilot and Datamarine depth meter. All navigational instrumentation and electronics were checked and powered up correctly. There are also analog gauges for such things as engine hours RPMs for both engines and so forth. No faults found at this time.



SEA TRIAL

A sea trial was conducted and the vessel was run from idle up to wide open throttle and the following data was recorded.

1000 rpm 6 knots
1500 rpm 8 knots
2000 rpm 9.2 knots
2500 rpm 11 knots
3000 rpm 16 knots
3500 rpm 20 knots
3800 (WOT) 24 knots.

Additionally the temperatures were checked and all appeared within manufacturers specifications. Oil pressure was steady and the engines ran well.

ADDITIONAL EQUIPMENT

A stereo tape /radio is also installed adjacent to the dinette table and is mounted into the lower half of the small hanging locker. Speakers are mounted into the forward bulkhead. Powers up and operates correctly. There is also a canister liferaft mounted on the foredeck and this appears in good condition.

NOTES AND CORRECTIONS

Ensure that fire fighting equipment is installed onto the boat in accordance with USCG regulations before the boat goes back into commission. There are no tags on the fire extinguishers in the cabin or helm deck. Inspect and tag yearly

The bilge is little dirty and could do with a clean.

The moisture levels in the fore deck are a little high and this is mostly due to the bolts for the cleats and chocks etc requiring rebedding.

The rudders on the boat are out of alignment. Adjust the tie rod to correct the excessive toe in which is causing excessive drag.

The liferaft is overdue for service. Dated June 11th .

There are three deck fills for diesel but only one is required the others should either be removed or capped off to prevent diesel from being inadvertently poured directly into the bilge.

Inspection of the engines during the sea trial and at haul out revealed the following;

There is a nick in one of the blades of the port hand propeller.

Both props are showing some early signs of root damage at the hub which is most likely caused by cavitation damage.

During the sea trial it was noticed that the port motor was slightly noisier than the starboard hand engine which I think is due to the valve clearances needing some adjustment.

There is some out of balance vibration from the running gear on the port side which I feel is most likely due to an out of balance propeller. The shaft is very free to turn and there is nothing obvious at this time. I recommend that both props be removed and serviced.

Oils samples were taken by me the week previous to this inspection and these are attached for your information. It will be seen that there are higher levels of particulate matter in three of the four samples. I would suggest that the oil and filters be changed in accordance with the manufacturers recommendations and further sampling be done at regular intervals to track engine and gear wear.

SUMMARY

In accordance with the request for a marine survey of the vessel, for the purpose of evaluating its present condition and estimating its Fair Market Value I herewith submit my conclusion based on the preceding report. The subject vessel was personally inspected by the undersigned on 6 /29/12 and was found to be a sensibly constructed vessel and set up for coastal cruising, fishing expeditions and day trips. The vessel is in good condition having recently been buffed and polished but is a little dirty in the bilge area. As noted elsewhere in this report I believe that a fair market value for the boat in it's present condition to be \$50,000 which is based on the vessels age, comparable boats for sale at this time and reference to trade manuals such as the latest edition of the BUC research guide. The replacement cost of a comparable vessel would be in the region of \$250,000.

This was a pre purchase survey for Mr M Gamble and Mr A Thompson only and it is my opinion that the boat represents an acceptable insurance risk.

The vessel has been well maintained and it appears as if all the essentials have been kept up by the previous owner who obviously knew the boat well. Providing that the necessary corrections are attended to and the routine maintenance kept up the boat should give a long and reliable amount of service.

SURVEYOR'S CERTIFICATION

I certify that, to the best of my knowledge and belief:

The statements of fact contained in this report are true and correct. The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions, and are my personal, unbiased professional analyses, opinions, and conclusions.

I have no present or prospective interest in the vessel that is the subject of this report, and I have no personal interest or bias with respect to the parties involved.

My compensation is not contingent upon the reporting of a predetermined value or direction in value or direction in value that favors the cause of the client, the amount of the value estimate, the attainment of a stipulate result, or the occurrence of a subsequent event.

I have made a personal inspection of the vessel that is the subject of this report.

This report is submitted without prejudice and for the benefit of whom it may concern.

All notes and recommendations in this report are based upon my experience of over 35 years in the marine industry. The enclosed are my considered opinions and are given without prejudice, I cannot be held responsible for any errors, omissions or mistakes in my judgment and acceptance of this report constitutes acceptance of that condition.

This survey is conducted in accordance with the code of practice as laid down by SAMS (Society of Accredited Marine Surveyors) and where appropriate, standards, requirements and practices as outlined by the ABYC and USCG.

Yours faithfully,



Mark Corke
SAMS sa
Yacht and Marine Surveyor

36 Orchard Hill Road
Epping
NH 03042

860 304 4654