Hans Jørgen Andersen, AMS®/SMS
Accredited Marine Surveyor®/Senior Marine Surveyor – SAMS®
1305 North H Street, Suite A, PMB 329
Lompoc, California, 93436, USA
Tel: 805-452-7013 * Fax: 805-737-0346

Report of Marine Survey

Of the Vessel

Marelee

For the Exclusive Use of

Eric and Sue Lee
PO Box 206
Saint David, Arizona

MARELEE sits in dry dock at Port San Luis, California for survey.

NOTICE

Boating is generally acknowledged to be a potentially hazardous vocation and avocation and hazardous events may occur that are beyond the control or responsibility of any party. This Report of Marine Survey shall attempt to identify those hazardous conditions found aboard the subject vessel, at the time of the survey, to mitigate the potential hazards. There are no warranties or guarantees expressed or implied that all hazardous conditions will be discovered. This Report of Marine Survey is issued for the exclusive use of the requestor identified within and the onus is upon said requestor to fully understand the information contained within the report and upon information shared verbally by the attending marine surveyor during the course of the survey. This report is not transferable without the express written consent of the undersigned marine surveyor. Should any questions arise regarding this Report of Marine Survey, the requestor should contact the undersigned marine surveyor for clarification. This Report of Marine Survey represents the professional opinion of the condition of the subject vessel at the time the survey was performed and is valid for thirty-days of undisturbed lay-up or the first use of the vessel after the survey was performed. The Report of Marine Survey is issued without bias or prejudice. The subject vessel was inspected by the undersigned marine surveyor in all accessible areas without removal of ceiling plates, tanks, machinery, bulkheads or stowed gear. Should the requestor wish to have such impediments removed for deeper inspection, an additional charge will be incurred for labor.

Machinery, such as engines and generators, are not normally evaluated during the course of a hull survey. Should the requestor seek information as to the operational conditions of such machinery he/she is advised to engage the services of a reputable marine mechanic to perform a mechanical survey. The undersigned marine surveyor examines the installation of such machinery, cooling hoses, condition of control cables or actuators, shaft couplers, shaft logs, struts and propellers where accessible to inspection. The undersigned marine surveyor does not operate the machinery and no statements are made regarding the operational characteristics unless specifically stated in this report.

Tankage is examined in accessible areas without removals or openings. Fuel and water piping is also examined where accessible. Electrical cables are examined where accessible without opening fastened down compartments. Electrical equipment such as electronics should be operated and tested during sea trial and notations made for the marine surveyor of items that are inoperative or questionable. Surveyor attendance on the sea trial is available for an additional fee; arrangements for that service should be made in advance of the survey.

The undersigned marine surveyor utilized all due professional diligence in the performance of this survey with the prevailing conditions at that time. It is possible that some defects or hazards, hidden or obvious, may have gone undetected in the course of the survey. As this report is a statement of the professional opinion of the condition of the vessel at the time the survey was performed there is no warranty or guarantee expressed or implied in any way by this Report of Marine Survey. A court of competent jurisdiction shall not hold this firm, the undersigned marine surveyor, or any and all employees, agents or representatives liable for any inaccuracies, misstatements, omissions or errors in judgment unless such acts are adjudged to be acts of willfulness conduct on the part of the attending marine surveyor. In any dispute the limitation of liability to this firm shall not exceed the actual cost of the marine survey.

The undersigned marine surveyor is available to answer questions regarding the client's vessel. If research or a trip to the boat is necessary, a nominal fee will be charged. If, however, the surveyor can answer the questions without an attendance or research the service is free. Thank you for the opportunity to serve you and we hope to serve you again in the future. Acceptance and use of this Report of Marine Survey, for any purpose, serves as an acknowledgement of the terms and conditions expressed herein for all purposes.

General Information

File Number ..... MARELEE'05
Date of Survey ..... August 7, 2005
Requester ..... Eric Lee
Purpose of Survey ..... Underwriting
Surveyed At ..... Port San Luis, CA
While the Vessel Was ..... Dry docked
In Attendance ..... Eric, Sue and Ryan Lee
Owner ..... Robert Eric Lee
Flag ..... United States of America
Vessel's Name ..... MARELEE (ex-MUMBOJUMBO) (ex-BLUE SAILBOAT)
Hailing Port ..... St. David, AZ
Official Number ..... CF 6612 FS (California registration – valid)
Hull Identification Number CFZ6612F0075S
Service ..... Recreation
Designer ..... ATKINS
Builder ..... SPCNS, Somewhere in California
Year and Model ..... 1979* ATKINS THISTLE 32
Type of Vessel ..... Single oil auxiliary masthead cutter
Accommodations ..... Four

Navigational Area

This vessel is sound. When ably manned and provisioned she is acceptable as a bluewater passage maker.

Valuation

Note: The values expressed herein are derived from published price guides, current asking or selling prices, and the opinion of the undersigned marine surveyor.

Fair Market Value, As-Is $20,000.00
Replacement Value (Like and Kind, New Construction) $120,000.00

Dimensions

Note: The dimensions and capacities listed herein are derived from published sources and are believed to be correct but are not guaranteed.

Length, Overall ..... 32' 01"
Length, Registered ..... 32' 00"
Length, On Deck ..... 32' 01"
Length, Waterline ..... 27' 06"

Beam ..... 11’ 06”
Draft ..... 5’ 00”
Ballast ..... Steel punchings set in concrete
Displacement ..... 25,000 pounds

Construction

Type of Hull ..... Displacement round bilge with Spoon bow and canoe stern
Hull Material ..... Ferro-Cement (steel rebar with aviary mesh filled with Portland cement)
Frames ..... Steel rebar (1/4” estimated) and steel ¼”X3” stock
Fasteners ..... Portland cement, resin glues, and stainless steel bolts
Stringers ..... Steel and Fir
Bulkheads ..... Marine-grade plywood
Hull to Deck Joint ..... Flanged
Deck Beams ..... 2”x4” Fir
Decking ..... Plywood
Superstructure ..... Plywood
Topsides Finish ..... Marine paint with epoxy moisture barrier coat
Anti-Fouling Properties ..... Copper-based marine anti-fouling paint with epoxy moisture barrier coat

Machinery

Number and Type of Engines ..... Single three-cylinder naturally aspirated Diesel
Manufacturer and Model Number ..... VOLVO PENTA “MD2030”
Year Model ..... 1999 (reported)
Serial Numbers 118886
Engine Hours 923.2
Total Horse Power 28
Carburetion ..... Fuel injection
Engine Cooling System ..... FWC through heat exchanger
Exhaust Type ..... Water injected, wet through stern
Engine Room Ventilation ..... Natural ducting
Engine Bearers ..... Steel framework
Motor Mounts ..... Flexible
Reduction/Reverse Gears ..... VOLVO PENTA “MSZLD” with 2.3:1 reduction
Throttle and Shifter Controls ..... MORSE cable
Shaft Couplers ..... Steel cuff with vibration dampener
Shaft Log Packing Glands ..... Flax packed adjustable bronze
Propeller Shafts ..... 1” stainless steel with normal taper

Propellers ..... 11¼" X11" three-blade bronze (two spares of different sizes on board)
Propeller Shaft Bearings ..... Stern housing cutlass bearing
Steering System ..... Tiller
Rudders ..... Plywood and fiberglass

Bilge Pumps ..... RULE 2000 12-volt automatic, one manual pump
Fresh Water Pumps ..... Manual foot pump (dockside hook up installed)
Toilet Pumps ..... Manual pump
Windlasses ..... Manual
Winches ..... LEWMAR sheet and halyard winches (self-tailing)

Fuel Systems

Number and Material of Fuel Tanks ..... One, Aluminum
Capacity of Fuel Tanks ..... 30 US gallons (reported)
Framing of Fuel Tanks ..... Aluminum and wood
Location of Fuel Tanks ..... Below cockpit
Fuel Tank Fill Locations ..... Aft deck
Fuel Tank Fill Labeling ..... DIESEL
Fuel Lines ..... USCG Type A-1 Hose
Fuel Line Support ..... Good
Fuel Shut-Off Valves ..... At tank
Primary Fuel Filters ..... DAHL
Fuel Tank Venting ..... Overboard
Fuel Tank Vent Flash Screens ..... Yes
Fuel System Grounding ..... Yes per ABYC standards
Other Fuel Systems ..... Two 5-gallon LPG (propane) tanks
Use ..... Galley range
Location of Tanks ..... Deck box aft of mast
Fuel Lines ..... UL approved
Fuel Shut Off System ..... 12-volt solenoid

Plumbing Systems

Number and Material of Fresh Water Tanks ..... One, plastic
Capacity of Fresh Water Tanks ..... 18 US gallons (estimated)
Framing of Fresh Water Tanks ..... Wood
Location of Fresh Water Tanks ..... Below saloon sole
Fresh Water Tanks Fill Locations ..... On tank

Fresh Water Piping ..... Hose
Fresh Water Piping Support ..... Fair
Fresh Water System Shut-Off Valves ..... None
Fresh Water Service To ..... Galley sink
Gray Water Discharge ..... Overboard
Number and Type of Toilets ..... One, manual pump
Number and Material of Sewage Holding Tanks ..... One, plastic
Sewage Discharge ..... Overboard or through deck
Number and Type of Through Hull Fittings ..... Four Meralon ball valves

Electrical Circuitry

AC Voltage ..... 125-volt, 30 Amp, 60 Hz, single-phase
Source of AC Voltage ..... Shore power or inverter
AC Conductors ..... Three wire and two-wire zip cord
AC Circuit Protection ..... Thermal circuit breakers
AC Inverter ..... 300 Watt
Battery Chargers ..... Not on board
DC Voltage 12-volt
Source of DC Voltage ..... Batteries and alternator
DC Conductors ..... Two-wire stranded copper
DC Circuit Protection ..... Fuses
Battery Switches ..... PERKO
Batteries ..... Two 12-volt Group 27, one 12-volt Group 30 Lead-Acid
Battery Protection ..... Boxed uncovered
Corrosion Protection ..... Passive

Spars, Rigging & Sails

Style of Rig ..... Cutter
Number of Spars ..... Single mast with boom, bowsprit and boomkin
Spar Material ..... Aluminum
Mast Steps ..... To deck with steel compression post to keel
Standing Rigging ..... Stainless steel 1X19 wire with STA-LOK terminals
Age of Standing Rigging ..... 1999 and 2002
Chain Plates ..... Stainless steel, external
Age of Chain Plates ..... Original
Running Rigging ..... Dacron braid
Sail Area ..... 620 square feet

Sail Inventory ..... 2 Mains, 150 and 110 Genoas, 2 Staysails, Yankee, storm jib and storm trysail

Deck Equipment

Anchors ..... CQR Plows (2), DANFORTH (1) BRUCE (1)
Anchor Rode ..... Chain and line
Sea Anchors ..... Drogue
Chocks ..... Stainless steel
Cleats ..... Stainless steel
Life Rails ..... Pushpit
Life Lines ..... Triple course stainless steel with stainless steel stanchions
Boarding Ladder ..... Teak
Dock Lines ..... Nylon
Fenders ..... Four
Canvas Awnings ..... Cockpit dodger, boom tent awning
Canvas Covers ..... Sail covers, BBQ Cover, winch covers, tiller cover
Small Boats ..... WEST MARINE inflatable

Electronics and Aids to Navigation

Compasses, Cockpit ..... RITCHIE magnetic
GPS Navigator ..... GARMIN hand-held
Loran C Navigator ..... WEST MARINE “VECTOR II”
Radars ..... JRC “1000” 16-mile
Automatic Pilot ..... SAILOMAT self-steering wind vane
VHF-FM Transceivers ..... LORAD “BLACK STAR”, STANDARD “HORIZON”
SSB Transceivers ..... ICOM “IC-M710”
SSB Antenna Tuner ..... ICOM “AT-130”
Radar Alarm ..... SURVIVAL SAFETY ENGINEERING “050”

Safety Equipment

Portable Fire Extinguishers ..... Three B-I Dry Chemical*
Smoke Alarms ..... None, Recommended
Carbon Monoxide Alarms ..... FIRST ALERT
Bilge High Water Alarms ..... RULE 12-volt
Machinery Alarms ..... Audio/Visual
EPIRB ..... ACR Class A
Distress Signals ..... ORION kit
Ship’s Whistle ..... Hand held air horn

Ship's Bell .....Cast bronze
Navigation Lights .....12-volt International and tri-color masthead light
Anchor Lights 12-volt
Deck Lights 12-volt
Life Rafts .....SEA JAY 6-man
Man Overboard Pole ..... One
Flotation Strobe Lights ..... Two
PFDs ..... Six TYPE I Adult
Type IV PFDs .....One ring with 60' of ¼" polypropylene line and strobe light
Man Overboard Retrieval .....LIFE SLING
Day Shapes .....Anchor ball
Radar Reflector ..... Passive
First Aid Kit ..... Medium

Government Required Navigational Aids and Placards

Light List .....None seen
Coast Pilot .....None seen
Navigation Charts .....None seen
MARPOL Trash Placard .....As required
Logged Trash Disposal Plan .....None seen
Oil Discharge Placard .....As required

Amenities

Galley Range .....Two-burner LPG range top
Refrigerator ..... SANYO AC/DC
Stereos.....JVC AM/FM/CD player

Hull Identification Number Photograph

None seen

Notes, for the Record

This Ferro-cement cutter was reportedly professionally built in 1979. The California Department of Motor Vehicles hull identification number indicates the vessel was constructed in 1975. The California registration number is more indicative of a 1975 construction date as well. At any rate, the vessel was exceptionally well built and does not appear to have been a "backyard" construction project. The hull is fair with no deterioration of the concrete or rust stains from deteriorating frame or mesh work within the concrete. Bulkheads are well attached to the internal webbing with stainless steel bolts spaced evenly apart indicating the professional methods of construction. Inspection of the bottom revealed some blistering of the epoxy moisture barrier at and around high metal content areas, but no deterioration of the

metal was seen. Those areas will be ground down to the concrete and recoated with a new epoxy moisture barrier. The hull to deck joint is very robust and no defects were noted in this crucial area. Overall, this vessel is well built and has been well maintained.

The auxiliary engine is reported to have been installed in 1999. It has almost 1,000 hours of operation registered on the Hobb's meter but the engine appears to be in near new condition. (See photograph as an example following this section.) The engine is well mounted to the foundation and appears to be properly aligned. There is a large vibration dampener between the engine's shaft coupler and the shaft coupler that has increased the length of the shaft aft of the final bearing to too long a section of shaft. The shaft coupler should be replaced with a 1" vibration dampener to rest the propeller in the proper position. The MORSE cable transmission and throttle cables are in near new condition and are well secured in the vessel. The exhaust system appears to be in good condition and no leaks are noted.

The fuel tank is in good condition and is well installed. The fuel hoses appear to be near new and are in excellent condition. The installation meets the standards of the ABYC and NFPA as well as the requirements of 33CFR. The LPG system is well installed. The fuel hose below decks is currently supported with metal saddles and they should be replaced with rubber-insulated saddles to prevent chafe to the LPG fuel hose. The system is fitted with a 12-volt solenoid.

The fresh water tank is small and dirty. A new tank should be installed for health purposes. An additional water tank should be installed as well to provide adequate water for crewmembers on protracted voyages. The toilet is well installed. The sewage holding tank may be pumped out from a shore based pump out station or can be pumped overboard with a manual pump. New hoses, and possibly a new tank, will go a long way towards reducing the smell of the sewage. Through hull valves are Meralon and are probably original. Prior any long-range voyages these valves and through hull stems should be replaced due to age. The vessel is equipped with tapered damage control plugs.

The AC electrical wiring is not of an approved type. Rewiring the AC circuits should be done with approved boat cable secured every nine inches with rubber-insulated saddles. The AC outlet installed in the galley should have a GFCI capability. The DC wiring is in fair condition but should be better routed and secured in a seamanlike fashion. The batteries should have their positive terminals shielded to prevent accidental discharge, shock and explosion hazards.

The spars and rigging are in good condition having been reworked just three years ago. Sails are in poor condition but are to be recut or replaced in the near future.

Deck equipment is in good condition and is well secured. Electronics are sparse but functional. Safety equipment is in good condition but additional alarms and updating of date sensitive items is called for at this time. The galley is sparsely equipped.

Recommendations

PRIMARY RECOMMENDATIONS for immediate compliance

1. Replace AC wiring and clean up the DC wiring to meet ABYC standards.
2. The vessel is fitted with two sets of International navigation lights. Remove one set to avoid giving improper signals at night.
3. Repair the leak in way of the galley sink drain through hull fitting.
4. Remove metal supports for the LPG supply hose below decks and provide new support by way of insulated metal saddles to eliminate possible chafe.

SECONDARY RECOMMENDATIONS for regulatory compliance

1. Have all fire extinguishers inspected and certified annually and mount them throughout the vessel on USCG approved mounting brackets.

2. Replace all expired distress signals with new distress signals.
3. Board the USCG Light List.
4. Board the Coast Pilot # 7.
5. Board up to date navigational charts.
6. Board a logged trash management plan.
7. Have the Liferaft serviced and certified.

TERTIARY RECOMMENDATIONS for routine maintenance and surveyor's suggestions.

1. Grind the bottom in way of epoxy barrier coat deterioration down to bare cement then recoat with a new epoxy barrier coat.
2. Paint the bottom with a good quality anti-fouling paint.
3. Replace all sacrificial zinc anodes. DO NOT PAINT ZINCS.
4. Remove the second section of vibration dampener at the engine flange to shorten the shaft overhang past the cutlass bearing.
5. Grind soft wood on rudder and repair as may be necessary.
6. Soft wood noted on rudder at the lower gudgeon. Investigate further and repair as may be necessary.

A view of the engine in MARELEE showing the high level of maintenance it has received,

Statement of Physical Risk

Upon completion of the aforementioned recommendations this vessel should be considered as a good physical risk for underwriting purposes while maintained and operated in a prudent and proper fashion. She is well suited for her intended use as an extended coastwise and bluewater cruising vessel.

Signed, without bias or prejudice,

Hans J. Andersen

Digitally signed by Hans J. Andersen
DN: CN = Hans J. Andersen, C = US, O = Hans J. Andersen, AMS/SMS
Reason: I am the author of this document
Date: 2005.08.09 05:38:25 -07'00'

Hans Jørgen Andersen, AMS®/SMS
Accredited Marine Surveyor®/Senior Marine Surveyor – SAMS®
Principal Marine Surveyor
34°41.757N 120°28.315W