



BLUEWATER MARINE SURVEY

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MARINE SURVEY CONDITION & VALUE FOR THE VESSEL:
‘CHALLENGE’
1988 CATALINA 36



View of vessel at ‘in water’ survey sight –Bair Island, CA.

BLUEWATER MARINE SURVEY

VESSEL SURVEYED: 1988 CATALINA SLOOP 36’ / FILE NUMBER: 4212022149 – T

Terry Tupper – ACMS | 100T Captain | ABYC – Corrosion Certified

Leilani Tupper – Association of Certified Marine Surveyors

DESCRIPTION OF VESSEL

This is an auxiliary sloop with an aft cockpit. From the companionway, steps lead down into the main salon. On the port, from aft: galley, 'U' shaped settee, head compartment, Vee-berth. On the starboard: quarter berth below cockpit, navigation station, hanging locker & Vee-berth. The engine is below the companionway steps and cockpit sole.

VESSEL'S IDENTIFICATION



View of vessel's Documentation paperwork HIN # CTYR0824K788

VESSEL'S DIVE INSPECTION

Independent dive inspection at time of survey – no significant findings to report. Running gear, normal operation with no signs of corrosion. Cutlass bearing checked and found good condition. Slight movement on rudder, normal range. Plant growth scrubbed clean.



View of diver at time of survey.

INTRODUCTION

SCOPE OF SURVEY

This survey was conducted at the request of Erv Thomas on April 21st, 2022. This was an 'In-Water' survey with concurrent dive inspection conducted at Blair Island Marina where the vessel was in her berth. Ships papers were on board and in order.

The survey was performed in accordance with the terms and conditions of a verbal contract between the surveyor and the requesting party. Therefore, it is the intent of this document to set forth in writing the scope and limitations of the service provided. If upon receipt of this document, you as the requesting party disagree with any of the following conditions, please contact the undersigned surveyor immediately.

Any use of this report means it is accepted as **is**, and constitutes an acceptance of the following terms and conditions:

Inspections are made using non-destructive techniques; primarily visual inspection and sounding of areas in an attempt to determine their condition. Unless otherwise specifically stated in this report, services for the per foot price of a standard survey DO NOT include the testing of tanks, machinery, electrical systems/circuits or electronics, the removal of paneling, ceilings, machinery, cargo, gear or other personal effects in order to access otherwise concealed areas. No destructive testing has been done, no borings or ultrasonic testing of material thickness performed. Such services are available at additional cost when authorized by written contract. When applicable, if no mention is made of wood deterioration in the findings of this report, this is not to be construed as a warranty that none exists. No survey can establish that a vessel is completely free of wood deteriorating organisms, especially in the light of the many concealed and inaccessible areas encountered on each and every vessel. Therefore, given the rapid growth rate of such organisms, this surveyor will not accept liability for any such condition discovered later which could not be detected during the course of a normal survey as outlined above and performed under the conditions encountered on the survey date.

This was an 'In Water' survey. AC shore power was available. D.C power was available; some electronic equipment was tested. An independent diver did inspect the hull, running gear and etc. during time of survey, dive report included on this survey.

INTRODUCTION

Note: It is recommended and understood that all engines be surveyed by a qualified engine surveyor to determine the condition of the engines, gears and pumps, heat exchangers, coolers, etc.

The mandatory standards promulgated by the United States Coast Guard, under the authority of title 46 United States Code title 33 and 46, Code of Federal Regulation, and the voluntary standards and recommended practices developed by the ABYC and NFPA have been used as guidelines in the conduct of this survey.

DEFINITION OF TERMS

Excellent	New or like new.
Good	Nearly new, with minor cosmetic or structural discrepancies.
Fair	System, component or item, is functional as is with minor repairs.
Poor	Unusable as is and will require repairs or replacement of system.
*	Use of an asterisk (*) in the report indicates that a finding will be listed in the 'Findings and Recommendations' section pertaining to the item it is next to.
USCG	United States Coast Guard.
USC	United States Code
CFR	Code of Federal Regulation.
ABYC	American Boat and Yacht Council
NFPA	National Fire Protection Association
FRP	Fiberglass Reinforced Plastic
DC	Direct current (12 volt system)
AC	Alternating Current (Shore or generator power).
Powers up	Power was applied only. This does not refer to the operation of any system or component unless specifically indicated.
Appears	Indicates that a very close inspection of the particular system, component or item was not possible due to constraints imposed on the surveyor (e.g. no power available, inability to remove panels, or requirements not to conduct destructive tests.
<i>*Italicized text</i>	Within the document if there is an asterisk (*) <i>followed by italicized text</i> – this is a recommendation and can be found at the end of this document within the recommendations section.

GENERAL INFORMATION

SURVEY DETAILS

Purpose of Survey: Insurance condition and value.

Party Requesting Survey: Erv Thomas (owner).

Date: April 21, 2022.

Owner's Phone; Email:
iamerv@gmail.com

Parties Present at Survey: Erv Thomas (Owner), Daniel Deskins (Diver)

Location: Bair Island Marina in Redwood City, CA.

Marine Surveyors: Terry Tupper (100T Captain | ACMS) & Leilani Tupper (ACMS).

BASIC VESSEL INFORMATION

Name: 'Challenge'

Official Number: *Not sighted.
(Documentation Number).

Hull Identification Number:
CTYR0824K788

Year/Make/Model: 1988 / Catalina / Sloop 36'

Hull Type & Material: Displacement, FRP.

Builder/Designer: Frank Butler design Catalina Yachts – Woodland Hills, CA.

L.O.A: 35' 7"

Hailing Port: San Francisco, CA.

Beam: 11' 11"

Propulsion System & Fuel Type:
Inboard diesel and sail.

Draft: 5' 5" (fin keel)

Intended Use: Recreation.

Weight: 15,000 lbs. approximately

Intended Cruising Area: San Francisco Bay.

Ballast: 6,000 lbs.

Vessel dimensions and weight were obtained from 2009 Edition of BUC Book. All other data was obtained from onboard ship's papers.

SYSTEMS

HULL, DECK AND SUPERSTRUCTURE

HULL CONSTRUCTION

Type & Material: Displacement, fiberglass.

Frames & Planking: FRP stringers and marine plywood, built-in bulkheads; athwart ship beams – good condition.

Bulkheads: Tabbed marine plywood – good condition where sighted.

Bilges: Overall good condition – boat has been sitting for a duration and minimal water in bilge
Keel bilge: bilge pump non-operational; less than 1" of water keel bilge.

Engine bilge: dry; **clean out*

Exterior Color & Condition: White topsides with navy blue boot stripe.

Keel: Stainless steel 7 keel bolts sighted, bolts in overall good condition where sighted – **clean keel bilge and keep dry; bilge pump non-operational here; remove hose from bolts.*

Stem & Transom: FRP both good condition; straight transom.

Port Lights/Port Holes: None.

DECK CONSTRUCTION

Material & Surface: FRP with non-skid overlay atop; **mold spore needs pressure wash and deck treatment.*

Layout: Raised cabin roof with side deck, fore, and aft cockpit deck.

Hull to Deck Joint: Internal overlapping; in good condition.

Hatches: Escape hatch forward V-berth; two ventilation hatches; **two anchor locker access hatches at bow - reinforce, springy here.*

SUPERSTRUCTURE CONSTRUCTION & LAY OUT – Single aluminum mast atop FRP-molded cabin roof with portlights either side.

LAYOUT PHOTOS



VESSEL SURVEYED: 1988 CATALINA SLOOP 36' / FILE NUMBER: 4212022149 – T

SPARS AND RIGGING

Mast & Spars: Single spreader, ovoid, aluminum.

Boom: Aluminum, ovoid; good.

**Gooseneck rubber is rigid from UV rays – replace. Rigid boom vang.*

Mast Step/Partners/Chain Plates:

Mast step to keel stubby, good where sighted; chain plates accessible & no corrosion sighted.

Sail Inventory: Not inspected.

Mast Clearance: N/A.

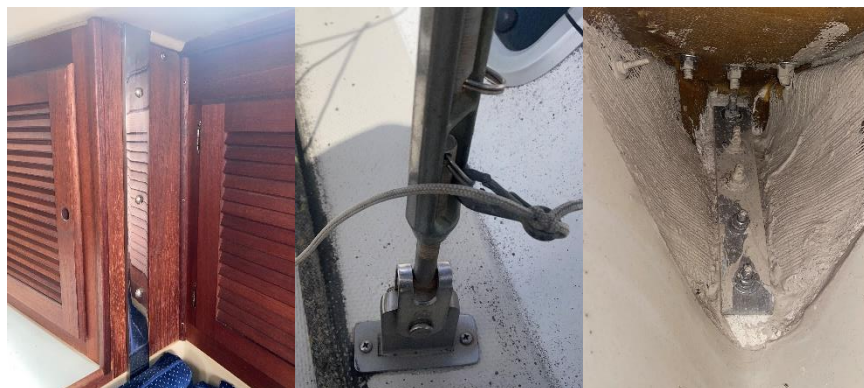
Radar Support: N/A.

Winches: Good condition, no corrosion sighted.

Running Rigging: Fair condition as sighted, not inspected. **Lines frayed and UV ray damage, renew lines.*

Standing Rigging: Fair condition as sighted, not inspected. Chain plates viewed bow, aft lazarette and amidships all good where sighted.

Rigging was inspected at deck level only and this does not represent a complete rigging survey which should be done by a professional rigger and include structures aloft.



PROPULSION MACHINERY

ENGINE ROOM

Location: Below companionway steps. **Natural Ventilation:** Yes.
Insulation: No. **Power Blowers:** Yes.

MAIN ENGINES – **Engine is not operational at this time, needs marine mechanic trouble shooting & tune up overall as it has been sitting for some time.*

Number, Type, & Fuel: One,
inboard, diesel.

Serial Numbers: Tag sighted atop
engine – Model # M-25XP /
Serial # 5C0850

Manufacturer: Universal Diesel

Flame Arrestor: Not required.

Number of Cylinders: 3.

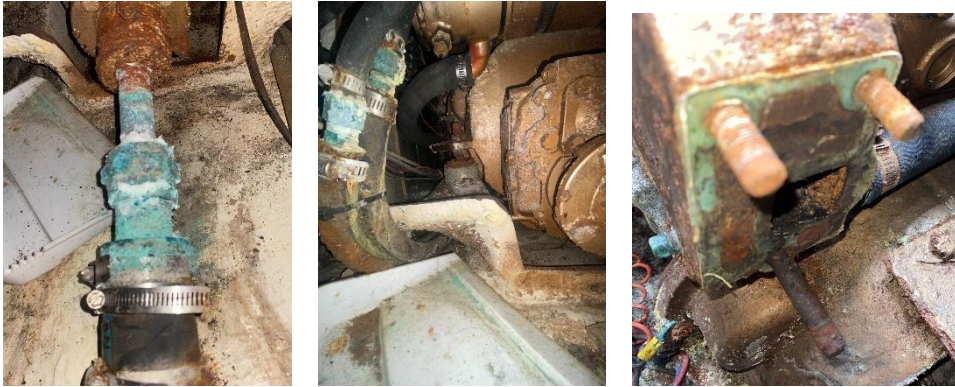
Engine Mounts & Beds: Angled
FRP stringers with adjustable steel
mounts bolted atop. **Port aft motor
mount heavy corrosion from coolant
leak.*

Belts & Pulleys: Both good
condition.

Exhaust System: Wet; single riser to
short flexible hose to mixer silencer to
flexible hose running aft to exit at
transom. **Silencer with streak marks from
top hose attachment – service and check
the rest of the exhaust not accessible
without removing paneling.*



View of engine.

COOLING SYSTEM
Type: Raw water heat exchanger.
Raw Water Strainer: Yes – plastic in-line strainer , <i>*needs to be cleaned.</i>
Seacocks: Marelon ball valve starboard aft of engine – good condition / open & close.
Hoses & Clamps: <i>*Overall most to be changed, anything over 5 years.</i>
<div data-bbox="331 705 1281 1089">Three photographs showing engine components. The left photo shows a close-up of a shaft with green packing material. The middle photo shows a network of hoses and clamps. The right photo shows a rusted metal exhaust elbow with orange-colored fittings.</div> <p><i>View of shaft packing; colling hoses to renew and exhaust elbow removed.</i></p>
TRANSMISSION SYSTEMS
Shaft Material & Size: 1" stainless steel.
Stuffing Box/Packing Gland: Traditional packing gland bronze nut. <i>*Packing is heavily corroded. Coupler and bolts have corrosion. Clean and service.</i>
Shaft Bearings: Cutlass bearing tested good, via diver.
Propellor: Propellor was cleaned via diver at time of survey to a 3 blade – blade edges felt normal.
Struts: Singe bronze.

STEERING SYSYTEM

Type: Wheel to quadrant via cable and pulleys.

Number of Stations: Single, aft cockpit.

Lines & Fittings: **Not sighted per access restrictions – see recommendations.*

Condition of Pulleys, Cable & Chain: **Not sighted per access restrictions – see recommendations*

Upper Rudder Bearing Support: **Not sighted per access restrictions – see recommendations*

TANKAGE AND PIPING

FUEL TANKS

Fuel Type: Diesel.

Tank Material: Aluminum.

Accessibility: Good access port aft settee.

Capacity: 32 gallons per tag.

Number of Tanks: One.

Manufacturer's Label: Ezell Industries.

FUEL PIPES AND HOSES

Fill Location: Port, amidships.

Fuel Filter: Primary – 'Parker Racor' M#R4S & secondary - 'Universal' PN# 298854. **Fresh fuel filters needed.*

Fuel Pump: **Out dated inline type at primary – update when renewing lines.*

Fill Pipe Fittings: Good.

Fuel Lines & Fittings: Original, **see updated codes for fuel lines in recommendations; *lines covered with spore, so condition is unknown.*

Shut valve off atop tank - **see which way is open or close and indicate this at valve.*

FRESH WATER SYSTEM – Plastic tanks below aft berth sighted. Water fills on starboard & port aft.

WATER PUMPS – 12V at hot water tank; foot pump at galley sink.

FRESH HOT WATER SYSTEM – Seaward 6gallon 120V heater below port settee. SN# 856520 / MN# S600

SANITATION SYSTEMS

Number of Heads: One port side forward.

Hoses & Clamps: Hose from head to tank average condition.

**Discharge hose is old and cracking renew. *Lock discharge valve.*

Macerator: Jabsco M# 18590-2092

Type of Head: Type III MSD.

Pump-out Location: Port side deck.

Y-Valves: None.

Holding Tank Capacity & Location:
Port side forward settee - 18 gallons.
per measurements taken.



Fuel, hot water, fresh water and black water.



Keel bilge and bolts.

#	<p style="text-align: center;">BELOW THE WATERLINE THRU HULLS FUNCTION / LOCATION / NOTES</p> <p>That were sighted during survey – all thru-hulls found to be PVC and ball valves updated to Marelon all thru-hulls and ball valves were found in good working order. <i>Most hoses and clamps will need to be renewed, see below for full details.</i></p>
1	Engine intake – PVC thru hull & Marelon ball valve starboard aft of engine (this T's and feeds something else, unable to trace - <i>*it is not recommended to share the engine intake with anything else</i>) – flexible hose goes to sea strainer, T's & then engine – thru hull found good condition / open & close.
2	Head intake – PVC thru hull & Marelon ball valve below shower seat, inboard ball valve – outboard goes valve runs to head just aft <i>*head not in use at this time</i> – thru hull found good condition / open & close.
3	Sink drain – PVC thru hull & Marelon ball valve within head, below shower seat, inboard ball valve T's – goes to sink just aft; <i>*hose cut and sink disconnected not in use at this time</i> – thru hull found good condition / open & close.
4	Holding tank overboard discharge – PVC thru hull & Marelon ball valve below port settee, <i>*needs to be locked or wire tied – goes to macerator just inboard *no hose connected to macerator.</i>
5	Head direct to overboard discharge – PVC thru hull & Marelon ball valve below port settee, <i>*needs to be locked or wire tied – *hose is plugged and not hooked up, Y valve has been removed</i> – thru hull found good condition / open & close.
6	Galley sink drain – PVC thru hull & Marelon ball valve below galley sink – thru hull found good condition / open & close. <i>*Hoses and clamps replace.</i>

VARIOUS THRU-HULL PHOTOS



ELECTRICAL SYSTEM

D.C SYSTEM

Batteries: Two, 12V West Marina
G24 starboard settee

Other: *Wingnuts; dielectric
protection.

Condition: *Plates are dry – replace
batteries, operational.*

Fastenings/Ventilation: Strapped
and in plastic spill proof box.

MAIN BATTERY SWITCHES	PANEL
Type: Main battery Perko switch at panel starboard navigation station – Perko battery selector switch at main panel.	Fuse or Breaker: Main DC panel with 15 fused switches.
Location: At navigation station.	Location: At navigation station.

CHARGING SYSTEM

Not sighted at time of survey.

A.C. SYSTEM

GENERATOR - None.

SHORE POWER

Shore Power Inlet Number: Single
receptacle port side of cockpit. Shore
inlet good condition.

Weather Protection: Marincos
stainless steel.

Rating: 30A/125V.

Distance to Panel: Less than 8'

Cord Condition: *Renew, blackened burned.	Adapters & Pigtails: None sighted.
Circuit Voltage & Amp Meters: None.	Circuit Breakers: Single main breaker at panel; hot water heater branch breaker switch. RPI indicator.

GALLEY

Stove/Oven Type & Model:

Hillrange two burner LPG.

Refrigerator: Adler-Barbour
refrigerant system port cockpit
lazerette – cut outs for ice box. Unit
powers up and hums, takes awhile to
cool down – clean out ice box and see
if it cools down.

Sink: Stainless steel deep dual basin
with foot pump.

ELECTRONICS AND NAVIGATION EQUIPMENT

UNIT	MANUFACTURER	LOCATION / CONDITION
VHF / GPS / Compass	Standard VHF at navigation station / Signet depth & log system 1000A / System 1500	Navigation station; operational.

GROUND TACKLE AND DECK EQUIPMENT

Anchor Type & Size: 35 lbs. CQR

Rode: 20' chain 60' rode appeared
okay – not inspected.

Anchor Platform: No. Short stainless-
steel chain runner.

Windlass: None.

Bow Roller: Single either side roller
furl.

Bowsprit: No.

Bow Pulpit: Sturdy stainless steel –
two stanchions either side.

Stanchions: Stainless steel.

Toe Rails: Okay. Minor crazing along
sides sighted.

Lifelines: Upper and lower from bow
to stern pulpits.

Stern Pulpit: Sturdy stainless steel.

Grab Rail: Good condition.

Swim Platform: None.

Swim Ladder: Center.

SAFETY AND FEDERALLY REQUIRED EQUIPMENT

COAST GUARD REQUIRED

Personal Floatation Devices/Life Jackets: Adequate.	Throwable Devices: Sighted.
Fire Extinguishers: Adequate.	Visual Distress Signals: Not required.
Sound Devices: Horn can.	Navigation & Anchor Lights: Yes.
'No Oil Discharge' Placard: Sighted.	'Trash Disposal' Placard: Sighted.
Navigation Rules: Not required.	Waste Management Plan: Not required.

OTHER SAFETY EQUIPMENT

Life Raft: None.	EPIRB: None.
Bilge Water Alarm: None.	Smoke Detector & Fire Alarm: *None.
Fixed Fire System: Fire Boy Halon 1301.	Fume Sniffer Alarm Systems (CO,LPG): *None.

BILGE PUMPS – Rule 2000 with Float switch within keel bilge – tested operational via DC switch at panel, but **not operational via float switch* **Recommend to hardwire bilge pumps to work while away*. NOTE – Vessel was found surprisingly dry as it had been sitting for a while without maintenance, and with inoperable bilge pumps – this indicates she is a fairly tight, dry vessel.



View cockpit and helm.

FINDINGS AND RECOMMENDATIONS

A. LEGAL REQUIREMENTS

These are required by USCG or USC CFRs and should be addressed before the vessel is next underway.

Refer to "Federal Requirements and Safety Tips for Recreational Boats." USCG requires:

1. One wearable type I, II, or III life preserver for each person, or each berth, aboard.
2. One throwable type IV life preserver.
3. Approved style, in date, visual distress signals (flares) outside the USCG designated COLREGS (San Francisco Bay out to "Mile Rock").
4. Three size B-1 fire extinguishers, one B-II = two BC-1, and four if length of vessel exceeds forty feet overall.
5. Mounted placards displayed aboard "Dumping of Garbage Prohibited" and Discharge of Oil Prohibited".

All of the above requirements were sighted aboard at time of survey.

B. SAFETY REQUIREMENTS AND ABYC RECOMMENDATIONS

These findings affect overall safety of the vessel and passengers and should be addressed as soon as possible.

1. Clean keel bilge and keep dry; bilge pump non-operational here; remove hose from bolts.
2. Engine bay bilge dry, but needs to be cleaned saw dust below engine.
3. Mold spore needs pressure washed from deck and cleaned.
4. The two anchor locker access hatches at bow - reinforce, springy here.
5. Gooseneck rubber is rigid from UV rays – replace.
6. Lines frayed and UV ray damage, renew lines.
7. Engine is non-operable at this time with exhaust hose removed for renewal. Silencer with streak marks from top hose attachment – service and check the rest of the exhaust not accessible without removing paneling.

8. Fresh fuel filters needed; check fuel as it has been sitting and polish as needed.
9. Renew fuel pump as needed, old type.
10. ABYC recommends all flexible fuel hoses are renewed every five years. The feed lines, per current standards, need to be USCG-Approved Type A1-15. Vent and fill lines can be types A1 and A2
11. Determine fuel valve which way is shut / open and mark such on top of tank.
12. Port aft motor mount heavy corrosion from coolant leak.
13. Engine intake - Marelon ball valve starboard aft of engine (this T's and feeds something else, unable to trace - it is not recommended to share the engine intake with anything else). Raw water strainer needs to be cleaned.
14. Head sink – is cut and not in use at this time.
15. Galley sink drain – renew hoses and clamps.
16. Hoses and clamps overall for boat need to be cleaned of mold spore and inspected, replace all with cracks are ware and replace all clamps with corrosion.
17. Bronze nut and packing gland both need to be serviced – clean blue corrosion until shiny metal underneath to determine loss of material. Renew packing gland old boot with cracks and renew clamps. Packing is heavily corroded. Coupler and bolts have corrosion. Clean and service.
18. Wheel to quadrant via cable and pulleys - not sighted per access restrictions. Remove debris and paneling from aft lazarette and view the steering gear here to ensure the wires are not frayed, corroded etc. and FRP housing rudder post in proper order.
19. Sanitation hoses most all need to be renewed / plumbing has been disconnected and head is not in use at this time – Discharge hose is old and cracking renew. Lock both discharge valves when within 3 miles of coastline.

20. Plates are dry and batteries will have to be replaced soon – although DC power fully functional during survey.

ABYC recommends the following with batteries: All positive terminals need dielectric protective covers like rubber terminal post covers or vented battery box covers; that large gauge wires be attached to terminals with screw-down hex nuts and not wing nuts; batteries shall be stowed in spill proof box / shallow containers.

21. Shore power cord with black / burn marks – do not use as is, cause of electrical fire – renew asap.

22. Ensure all bilge pumps are hardwired; those tested found non-operational via float switch – check bilge pumps to work while away and engage when float switch lifted.

23. Install a smoke detector with galley

24. ABYC recommends that all fire extinguishers be serviced annually by a qualified fire technician

25. This surveyor recommends one CO detector mounted in any and all occupied areas below deck & TURNED ON during operation

Vessels uses carbon based fuels (gasoline) for propulsion. During the burning of these fuels, Carbon Monoxide (CO) gas may be created due to incomplete combustion. Adequate ventilation must be provided at all times while in proximity to ANY vessel burning any these fuels as CO from external sources may also be drawn into the cabin through ventilation systems. CO is a silent menace and it kills without warning, therefore this surveyor recommends installation in any occupied spaces below decks a CO alarm (Xintex model CMD-3M, MARINE Technologists model 60-542 or equivalent) that meets UL Standard # 2034.

C. OTHER FINDINGS AND RECOMMENDATIONS

These are mostly related to overall maintenance issues and should be addressed in the near future to maintain vessel value and function.

1. Many of the cabinets through-out do not latch.
2. Boat interior and exterior needs thorough cleaning.
3. Keep ship's maintenance log updated.

SUMMARY AND VALUATION

SUMMARY

This vessel was found to be in poor condition, based on deferred maintenance. Once the engine is operational and list of easy to complete maintenance items are addressed vessel will increase in value easily. She was found structurally sound.

VESSEL RATING OF CONDITION

It is the surveyor's experience that develops an opinion as to a vessel's OVERALL VESSEL RATING OF CONDITION immediately after a complete survey has been performed and the findings organized in a logical manner.

The grading of condition, as developed by BUC RESEARCH, and accepted in the marine industry, for a vessel at the time of survey, determines the adjustment to the range of base values in the BUC USED BOAT PRICE GUIDE, for a similar vessel sold within a given time period, as a consideration to determine the Market Value. The following is the accepted marine grading system of condition:

'EXCELLENT' (BRISTOL) CONDITION' – is a vessel that is maintained in mint or bristol fashion – usually better than factory new, loaded with extras – a rarity.

'ABOVE AVERAGE CONDITION' - has had above average care and is equipped with extra electrical and electronic gear.

'AVERAGE CONDITION' – ready for sale requiring no additional work and normally equipped for her size.

'FAIR CONDITION' – requires usual maintenance to prepare for sale.

'POOR CONDITION' – substantial yard work required and devoid of extras.

VALUATION

As a result of this investigation, as stated in the SYSTEMS AND FINDINGS AND RECOMMENDATIONS section of this report:

OVERALL VESSEL RATING – ‘POOR CONDITION’. *with significant room for improvement once mainly the engine and deferred maintenance items are addressed.*

FAIR MARKET VALUE – \$20,300.00

ESTIMATED REPLACEMENT VALUE – \$282,500.00

The fair market value is the most probable price in terms of money which a vessel should bring in a competitive and open market under all conditions requisite to a fair sale. Taking into account the condition rating, an average was reached after researching prices from the following sources: BUC USED BOAT PRICE GUIDE, SOLDBOATS.COM, AND USEDBOATS.COM. The estimated replacement cost indicates the retail cost of a new vessel of the same make/model with similar equipment offered by the same manufacturer or a similar one if the company is no longer in business.



I hereby certify that, to the best of my knowledge and belief, the statements of fact contained in this report are true and correct.

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

Attending Surveyors: T Tupper (ACMS & USCG Captain) & L Tupper (ACMS)



INTERIOR LAYOUT PHOTOS



VESSEL SURVEYED: 1988 CATALINA SLOOP 36' / FILE NUMBER: 4212022149 – T