Hull Thickness Report of Marine Survey

Of a 50 Custom Sloop Steel Sailing Vessel

EVANNA

Conducted by:

John N. Allinson, II
INDEPENDENT MARINE CONSULTANT
SAMS® ACCREDITED MARINE SURVEYOR
Certified Infrared Thermographer

PREPARED FOR: Carol & Peter Evans
DATE: 27 February 2007

I. Introduction

Survey Purpose:

This survey will be performed to determine the thickness of metal plating in specific areas that are of concern for the client.

The opinions and conclusions expressed may be instrumental in

- Determining the extent of damage and
- Selecting the best method of repair

Survey Scope:

Perform a visual inspection and ultrasonic Gauging Survey of exterior of twenty (20) places in the metal hull that are of interest to Mr. Peter Evans.

Methods:

Areas selected for audio gauging were screened by using the infrared thermal imaging to locate internal structures of the vessel (e.g. frames and tankage) then sounding areas of metal plate with a plastic phenolic hammer. Areas of interest were thus identified then audio gauged to determine the thickness of the metal plate. A white paint marker was then used to scribe on each of the twenty (20) areas (aka stations) the station number and thickness measurement. For example station one (1) had a thickness reading of 6.1 millimeters. This was scribed on the hull as #1 6.1.

Equipment

Ultrasonic Gauge Type	CYGNUS 3 Datalogger
Gauge Serial #	214
Transducer	2.25 mHz ½" BNC Probe Serial # 89957
Calibration Test Block	0.5" NIST Registry #821125008292 Calibrated on 20 December 2004
Visual Image Recording	SONY digital Video Camera Model HDR-SR1

Acting upon the request of Carol & Peter Evans, the attending surveyor did attend onboard the EVANNA vessel for several days beginning on 27 February 2007 at Cape Marina, FL 32250. Present during the inspection were Mr. Ray Dillman, Mr. Bill Lawton, various crew and workers for Carol & Peter Evans and John (JACK) N. Allinson, II (Marine Surveyor for J.N. Allinson Associates, Inc.).

Vessel Description

The subject vessel is an all-welded steel sloop rigged sailing vessel with enclosed pilothouse. This vessel was constructed near Melbourne, Australia. Owners of the vessel have been circumnavigating for the last six (6) years and have temporarily stopped in Cape Canaveral to have the boat hauled and perform routine maintenance on the hull below the waterline.

Following a problem with a small section on the starboard side of the skeg which required welding, the owners decided to take advantage of the haulout and have specific areas of the hull below the waterline examined with an audio gauge as these areas are not visible from the interior of the vessel. J.N. Allinson Associates, Inc. was retained to perform a visual inspection, infrared imaging inspection and ultrasonic gauging of these areas of interest. The original hull plate thicknesses in the areas of concern were reported to

have ranged in thickness from 5 to 6 mm. According to ABS guidelines, wastage of 25% of the original thickness is acceptable before the steel plate needs to be replaced.

TABLE 2
Steel Wastage Allowances, Conventional Vessels Under 90 Meters (295 Feet)

Main Deck Plating	25%
Bottom Plating	25%
Keel Plating	25%
Sheer Strake	25%
Bilge Strake	25%
Side Shell Plating	30%
Forecastle	30%
Internals and Bulkheads	30%

For vessels built to other societies' rules, the Technical Office carrying out the initial plan review is to be contacted for wastage allowances.

Note:

1 For vessels less than 61 meters (200 feet) only, maximum loss of deck or bottom area is 20 percent of Rule required area.

II. General Information

File Number	2007-02-27
Survey Prepared for:	Carol & Peter Evans Port Canaveral Yacht Club 910 Mullet Drive Cape Canaveral, Florida 32920 Telephone: Telephone:
§ Name of Vessel:	EVANNA
§ Hailing Port:	Melbourne, Australia
§ Owner	Carol & Peter Evans 1153 Beach Blvd. Jacksonville Beach, Florida 32250 Telephone (904) 384-6647
Type of Survey:	Hull thickness … ultrasonic thickness gauging combined with visual and infrared inspection
§ Year/Make/Model of Vessel	1993/CUSTOM/STEEL PILOTHOUSE Sailing Vessel
§ Length Over All	Seventeen point Zero Four (17.04) Meters
§ Beam	Five (5.0) Meters

§ Draft	Two point Six (2.6) Meters
§ Builder:	D. Jarrek Australia
§ Plan Designer	D. Jarrek
§ Year Built	1993
§ Model Year	NOT RECORDED
§ Hull Identification Number (HIN)	MB 428
Registration Number	ON 855428
§ USCG Documentation Number	NOT USCG DOCUMENTED
State Decal	NOT RECORDED
Date/ Place of Survey: Out of water inspection	Carol & Peter Evans Cape Marina Cape Canaveral, Florida
§ Hull Material:	Steel plating in hull bottom ranged from 5.0 to 6.0 mm depending upon location on the hull below the waterline.
§ Hull Type:	Displacement
* Intended Use:	Blue Water Cruising
* Intended Cruising Area:	Blue Water Cruising

The following asterisk legend in this General Information section refers to the source of such information:

* Per Conversation with owner
** Refer to Summary and Valuation Section
*** Per USCG Documentation
**** Per BUC Book
† See Photo Section
§ Information contained in materials onboard the vessel, e.g. registration, owner's manuals discussion with factory, general research.

Summary:

In accordance with the request for a gauging of the thickness of the metal hull of the "EVANNA", for the purpose of evaluating areas of concern for its owners, I herewith submit my conclusion based on the preceding "REPORT OF SURVEY". The said vessel was personally inspected by the undersigned on 27 February 2007 and was found to be

- Well designed and constructed.
- Structural components of hull interior well maintained

An inspection of this vessel's hull by visual, infrared and audio gauging of specific areas of interest to Mr. Evans revealed that there was no metal wastage in excess of twenty five (25%) of the original steel plate thickness.

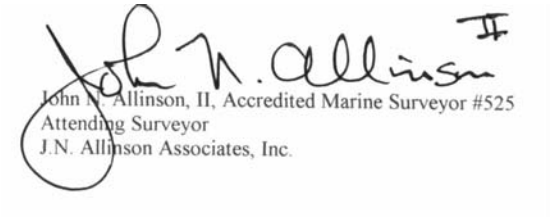
For general maintenance it is recommended that:

- This vessel's bilges are kept clean, dry and protected from corrosion with a intact protective coating system
- All foreign materials are isolated from coming into contact with the unprotected metal surfaces … especially in wet areas,
- A corrosion test performed to ensure that the equipment onboard is not leaking stray electrical current into the hull and that
- The cathodic protection system is adequate.

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 is 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 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.



27 February 2007

Audio Gauge Results:

Station	Thickness (mm)	Station	Thickness (mm)
1	6.1	11	5.2
2	5.0	12	4.9
3	5.8	13	4.5
4	5.0	14	5.2
5	5.0	15	5.8
6	4.9	16	5.1
7	4.9	17	6.1
8	5.1	18	5.0
9	5.2	19	4.9
10	4.8	20	4.9

Photographs:

Port side stern view. White arrow in photograph near the propeller shows the area that was welded in the hull to stop a water leak.

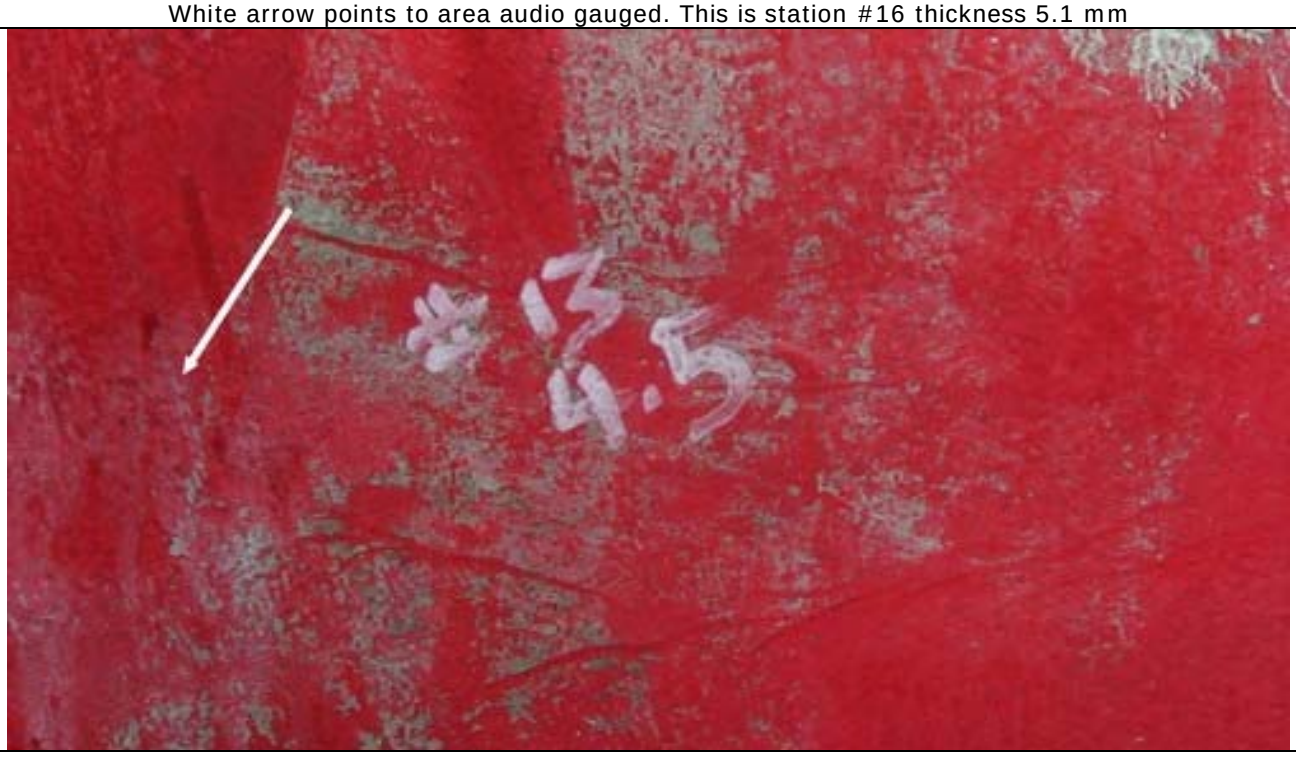
Three photos stitched together to show full view of port side of “EVANNA”.

Starboard stern view of "EVANNA".

Three photos stitched together to show full view of starboard side of "EVANNA".

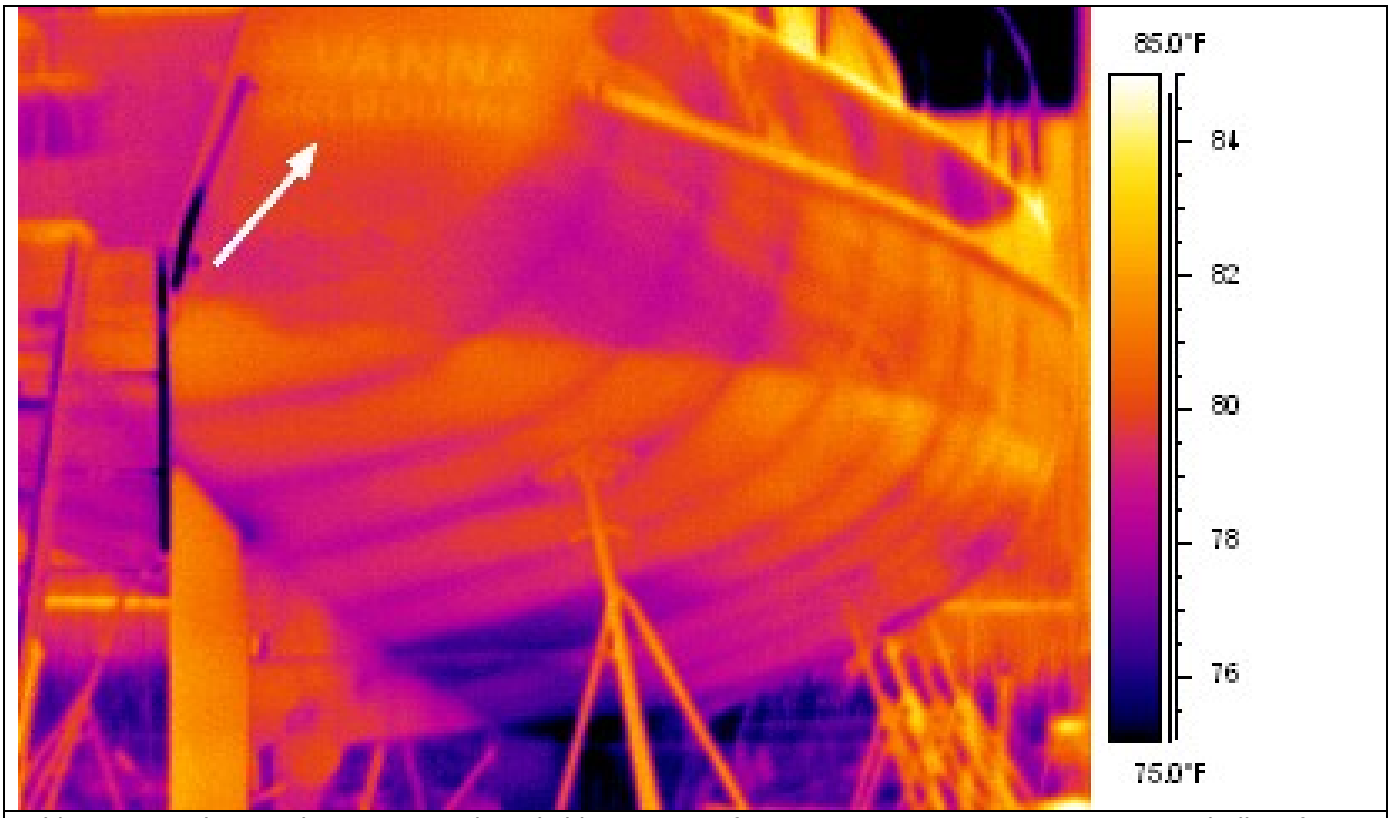
50 Custom Sloop Steel Sailing Vessel surveyed by J.N. Allinson Associates, Inc.
Jacksonville, Florida 32211-7534
WWW. ALLINSON.COM Email jna2@mindspring.com Telephone 904.721.2177

White arrow points to area audio gauged. This is station #16 thickness 5.1 mm



White arrow points to area audio gauged. This is station #13 thickness 4.5 mm

Infrared Images:



White arrow points to signage on starboard side transom of "EVANNA". Temperature patterns on hull surface reveals location of internal structures.

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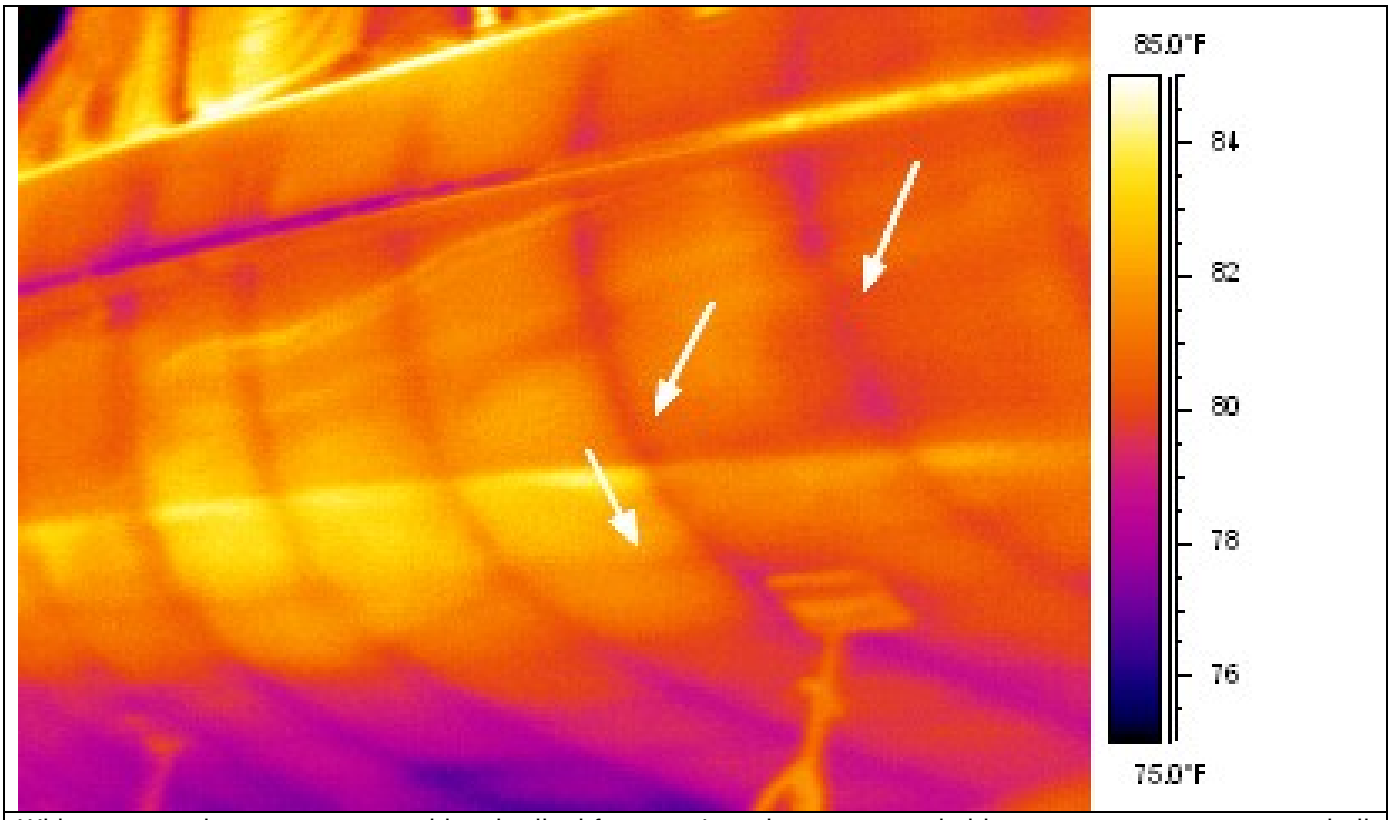

White arrow points transverse and longitudinal frames. Locations are revealed by temperature patterns on hull surface.

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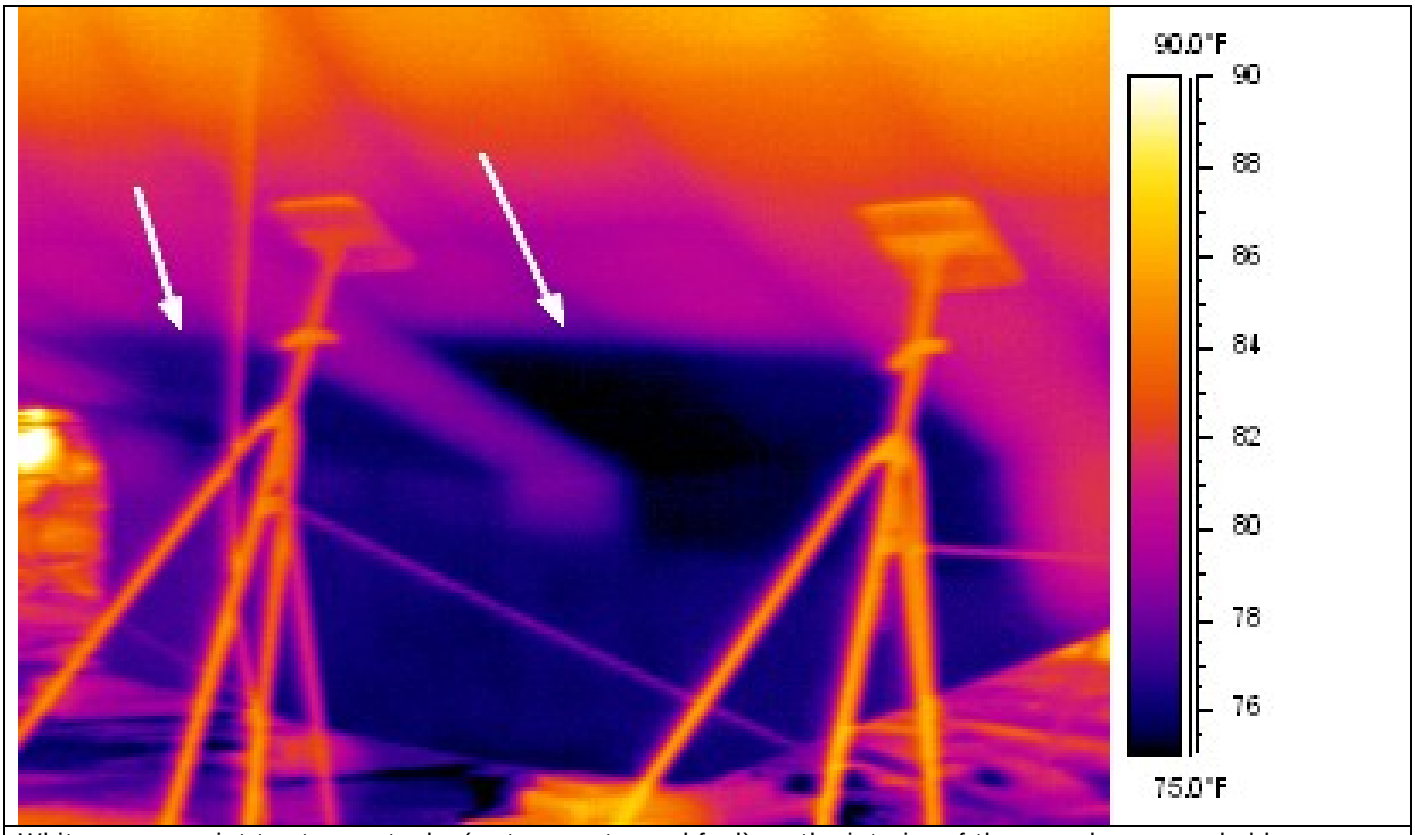

White arrows point to storage tanks (water, waste, and fuel) on the interior of the vessel are revealed by temperature patterns on hull surface.

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