Association of Certified Marine Surveyors
Find Our Surveyors In Twenty Countries Worldwide

[redacted]

Specialist Inland Waterway Craft Surveyors
Steel / Ultrasonics / Grp. / Wood

[redacted]

Report: Hull Structure / General condition Survey on vessel : **"Lovely Jubbly"**

Instructing Client: [redacted]
Date of Survey: 08-11-2016
Place of Survey: [redacted] Northwich, Cheshire
Reason for Survey: To ascertain the structural integrity of the inspected vessel

Description of inspected vessel

"Lovely Jubbly" is an all steel canal narrow boat in the Cruiser Stern Style
Reportedly built by Anderson boats Ltd. In 1990. No HIN. evident
Canals and rivers index number 47637 registered in 1990
Flat base with slab sides, upturned bow and rounded stern
Vessel has an open forward well deck. The cabin sides featured the usual tumblehome.
Blacking up to central rubbing strake, Satin black side decks, Blue cabin with Cream panels, Cream Tunnel banding on stern

Principal Dimensions

Loa: 56ft. 0Ins. Beam: 6ft. 10ins. Draft: Stern 30ins Below Fwd. Bulkhead 17ins.

Construction

All welded plate steel construction on steel internal frames, floors and stringers

10mm. / 6mm. / 4mm.

Survey Limitations / Disclaimer

This report is a factual statement of the examination, carried out within the limitations as stated below and with the opinions given in good faith as far as seen at the time of the survey.
It implies no guarantee against faulty design or latent defects and No opinion is offered as to the suitability of the surveyed vessel for its intended purpose.

The surveyors sole responsibility for this report is to the **Instructing Client** only, and to no other party
Liability will **Not** be transferred to any future owner of the inspected vessel,

No opinion can be offered as to the condition of those sections of the vessel which may be obscured by trestles, sleepers, trailers, tanks, covers, floorings, linings or ballast.
Parts of the structure,machinery and installations which are not "Readily accessible" have not been examined and no opinion is offered as to their condition.
"Readily Accessible" means, capable of being reached for operation,inspection or maintenance, without removal of any craft structure or use of any tools,or removal of any item of portable equipment stowed in places intended for the stowage of portable equipment, such as lockers, drawers, shelving **(Source ISO10088E)**

Areas which are found to be heavily fouled or coated, cannot be examined in detail.
Also the accuracy of any ultrasonic measurements in these areas will be greatly reduced
Seized / stiff weed hatch covers will not be removed and therefore a vital area will not be examined
Lockers containing ships stores or inventory will not be examined.
It is in the owners interest to ensure that these areas are readily accessible to the surveyor.

Liability is not accepted for defects or corrosion which may later be revealed by aggressive hull treatments such as shot blasting or needle gunning.
It is in the instructing clients interest to clean off any heavily encrusted or fouled,
areas of the hull, before a survey is commissioned
Where any item is said to be in good order,this is with regard to the age of the vessel.
It does not necessarily mean "As New".

The propelling machinery will be examined visually,but the mechanical condition of engines and machinery is beyond the scope of this survey. An independent mechanical / engine test is always recommended.

The electrical and gas systems should always be independently inspected
by a suitably qualified person before use.

tanks are inspected externally, but not internally.
They will not be pressure tested, nor have their contents tested for contamination.
Windows,hatches and external doors will be inspected but not tested for water tightness.
Sea cocks will be operated where possible, but not dismantled or checked for water tightness.

Where steel vessels have been over plated, and subsequently blacked,
it is not possible to give assurance that the welded joints on the over plating work will be 100% water tight.
Any slight imperfections in the welded joints could allow water ingress between the original steelwork
and the over plated sections. It is not possible to identify many of these these imperfections
in a purely visual examination, unless the complete lower hull is shot blasted back to bare metal.

Where a vessel has been inspected on hard standing, no assurance can be given
that there will not be any leakage / seepage, once the vessel is re-floated.

It is the sole responsibility of the client to satisfy themselves that any necessary documentation for the vessel, with regard to Recreational Craft Directive, is present and correct

Our liability shall expire 12 months after completion of the services in respect of which liability is alleged to arise and we shall thereafter have no liability in respect of those services and/or any alleged default in connection with the provision thereof;

Hull

The inspection was carried out while the vessel was resting on a purpose built yard trailer within the confines of
Access to the base plate was satisfactory except for areas covered by trailer support beams.
The hull was inspected by sighting along roof line and side decks, by hammer tap sounding and by random use of ultrasonic test equipment *(NDT TG110-DL)* in order to determine metal thickness at given points.
Meter was calibrated on 10mm. and 5mm. test blocks before survey, with returned readings of 10mm. and 5mm. respectively.
A datum point above the waterline was also cleaned back to bare metal in order to ascertain the original metal thickness. This was found to be : 6mm.

The surveyor endeavours to identify areas where any pitting is at its deepest / most prolific.
This is however a visual examination, situations can arise where pitting can be obscured or *"Filled in"* with surface coatings and it is possible that pits deeper than those reported may exist.
A full and thorough evaluation of pitting can only be undertaken if all surface coatings have been removed and a shot blasting or needle gunning procedure undertaken in order to remove all rust and scale

The hull was dry at the time of the survey, it had been recently blacked prior to the examination

Viewed from a distance, the hull appears to be symmetrical, showing no signs of lateral or longitudinal distortion.
No obvious signs of sagging or hogging

The hull side plating shows evidence of moderate pitting with more heavy pitting in some areas along waterline.
Pitting on hull sides has been successfully arrested by surface coatings.
Pitting does not affect the structural integrity of the vessel at this time. Max. visible pitting depth of 1.5mm.
Residual ultrasonic point thickness on hull sides varies between 4.9mm and 6.1mm.
The Bitumen type coating on the underwater sections of hull sides is in satisfactory order
All vertical welds that were inspected were satisfactory

Through hull skin fittings are at an adequate height above the waterline

There are no signs of major lateral distortion but it is evident that the vessel has suffered from impact indentation around bow area and along the fwd. hull sides. This is cosmetic in nature and does not affect the structural integrity of the vessel

The swim plating shows moderate pitting to depth of 1mm. ,with residual ultrasonic point thickness readings of 5.8mm.
The counterplate *(Uxter.)* Has been constructed using metals of two different thickness, joined laterally.
The fwd. part of the Uxter is in 10mm. while the aft section is in 6mm.
Uxter plating shows evidence of moderate pitting, with residual ultrasonic point thickness readings of 6mm. and 5.8mm.
The rounded stern is free from impact damage and shows good metal thickness. 5.9mm

The sacrificial wear edge,which is intended to protect the welded joint between hull sides and base plate, has been abraded over time and a 2" "D" section, belted rubbing strake has been affixed to the hull sides, just above the Hull side to Base welded joint.
A similar situation arises around the stern, where a "D" section strake has been affixed, covering the Uxter to stern welded joint.

***These structural welded joints can no longer be inspected and therefore No Comment as to their condition can be offered*

The remaining,all around,belted rubbing strakes are welded along top edges but only stitch welded along bottom edges.
This is not a good practice as it allows corrosion to take hold along and under the lower edges of strakes.
Corrosion in this area is almost impossible to quantify and difficult to arrest.
Areas should be de scaled back to bare metal and paint protected.

Sacrificial anodes are worn and in need of replacement

The base plate was found to be moderately fouled.
Viewed from the stern of the vessel, the base plate appears to be uniform in construction, with no signs of buckled or indented plate work and only slight undulation.
Where fouling was removed, the base plate exhibits signs of moderate pitting,
Random ultrasonic point thickness measurements were taken,where possible and are shown, but these must be regarded with caution and may not represent an accurate overall measure of the plate thickness.
Detailed inspection opinions and measurements of the base plate relate only to the small areas that could be scraped off.

In the areas that could be examined in detail, the pitting on base was limited to depths of less than 2mm.
As the base plate was originally 10mm thick, this amount of pitting is acceptable.
Residual thickness obtained from several ultrasonic point measurements on the base plate varied between 8.4mm. And 9.1mm

Transverse welds, were not visible.

Wear strips have been added to the turn of the swim on both sides and to the Stbd. side of the bow
The welding work in attaching these wear strips has not been done to a good standard.
I would suggest that the welded joints around these added wear strips are re made to a better standard.

The vessel was fully fitted out, which severely restricted any inspection of the hull internal surfaces.
Ultrasonic measurements,as listed on separate sheet, can give accurate thickness of metalwork at the point of test only.

Decks / Superstructure

The tumblehome strake area is in good order
The bow section and stem was found to be in good order.
The fwd. fresh water tank floor should be de scaled and paint protected internally using a potable paint coating
Well deck flooring is in good order
All welded joints on the upper area of fwd. bulkhead area are in good order and show no signs of movement
Cabin sides show no signs of any major indentation,impact damage or undue distortion.
The side decks are straight and true and show no signs of any major impact damage or distortion.
The cabin roof is of the folded edge type and in good order.
Roof is provided with adequate high level ventilation .
Cabin roof handrails are of the square tubular type and are well affixed.
The aft. deck bulkhead is in good order.
All welded joints in this area are good and show no signs of movement or distortion.
The aft deck supporting framework is in satisfactory condition,although the rainwater drainage channels should be cleaned out and paint protected.
The gas locker is sited on the Stbd. side of the cruiser deck. Internal corrosion is evident within the gas locker.
Gas locker and locker on Port side of deck, should be de scaled back to bare metal and paint protected asap.
Gas locker is correctly drained at lower level.
All mooring bollards securely attached
Paint system on superstructure is generally in good order.
No leakage tests were carried out on cabin

Hatches / Windows

Sliding main hatch is satisfactory
The integral weed hatch is of sufficient height above waterline
The surfaces of the weed hatch box show signs of moderate pitting / corrosion commensurate with the age of the vessel. Metal thickness in this area is deemed satisfactory at survey date.
I would however suggest that both internal and external surfaces of the weed hatch box are sanded back and paint protected as soon as practical.
Stbd. Hinge is broken on Fwd. fresh water tank hatch. This should be made good
Fwd. cabin access doors are satisfactory
Aft. cabin access doors satisfactory
All anodised window frames are in good order, all glass is intact

Steering

The steering system consisted of a steel swan-neck, steel stock and a flat plate balanced rudder blade, the blade measuring: 27ins. X 16ins. Shows signs of surface corrosion / pitting ,but remains serviceable
Slight bend in rudder top edge should be made good.
The lower rudder support cup bearing is worn to excess and should be made good.
The steering stock tube could not be examined and no opinion as to its. condition can be offered.
Tiller operates smoothly from hard over to hard over

Engine Installation

A three cylinder, Lister, air cooled diesel engine of 20hp. @ 2000rpm, drives a 17in. square tipped propeller through a PRM 260D2 reduction gearbox.
Engine: 3905232 TS3A - 40
Framing is all substantial and is in good order.
Engine bed also provides for an oil tight catchment area below the engine , as is required.
Engine bay bulkhead, where visible is in good order.
Internal surfaces of the engine bay are showing signs of surface corrosion, especially beneath the battery bank.
These areas should be de scaled and paint protected asap.
Diesel fuel storage tank appears visually to be in satisfactory order. *(It has not been pressure tested for leakage)*

The propeller was percussion tested which suggested there were no cracks to the blades.
The propeller blades had suffered from minor impacts. Surface scraping was carried out and no undue cracking or corrosion was observed on the propeller
The propeller shaft was heaved up and down to check for any undue play in the cutlass bearing, this was found to show some signs of wear but remains serviceable
There is evidence of water ingress within the engine bay.
Much of this water ingress is undoubtedly coming through badly fitted boards, but prop shaft gland / stuffing box should be greased and monitored for leakage at re launch.

Although not a part of this Hull Structure Survey, an attempt was made to run the engine/ transmission but Batteries were discharged and a start was not possible

General Observations on this Hull Structure Survey.

"Lovely Jubbly" is found to be structurally sound and in satisfactory order at the time of this Hull Structure Survey

The pitting, exhibited on hull sides has been successfully arrested by surface coatings and does not have any negative effect on the structural integrity of the vessel at this time.

The maintenance regime will need to be thorough if it is to be successful in mitigating future corrosion.

All points noted in Blue within this report should be addressed before vessel is re launched.

There is no reason why this vessel should not continue to give good service for many years if a good standard of maintenance is continued.

The internal fixtures and fittings do not form part of this hull survey.
A cursory examination of internal fit out however, shows it to be in satisfactory order

[redacted]

No assessment has been made as to the vessels compliance with the Boat Safety Scheme

This report is for the sole use of [redacted] on the understanding that liability of the undersigned does not pass to any future owner.

Principal Surve[redacted]

Association of C[redacted]

Ultrasonic Point Thickness , Vessel: **"Lovely Jubbly"** readings in mm. Distances approximate

Dist. From Bow in Ft.	**Starboard Side Plating**		**Port Side Plating**		**Base Plate**		**Uxter** Random Test points	
	At Waterline	50mm Above Base	At Waterline	50mm. Above Base	Stbd Side	Port Side	Stbd. Side	Port Side
1	5.9	5.2	5.9	6	9.1	9	Fwd. 8.6	8.9
5	6	5.4	6	6			Aft. 6	5.9
9	6	5.8	5.4	5.5	8.7	8.6		
13	6	5.4	5.9	6				
17	6	5.9	5.9	5.7	8.5	8.6		
21	6.1	5.5	5.7	5.8				
25	6.1	5.6	5.9	5.9	8.5	8.5		
29	6	5.5	5.8	5.7				
33	6.1	5.8	5.5	5.6	8.7	8.8		
37	6	5.6	6	5.5				
41	6	4.9	6	5.4	8.6	8.8		
45	6	5.5	5.9	5.8				
49	6	5.9	5.9	5.9	8.4	8.6		
53								
57								
61								
65								
69								
	Stern Average	5.9						
	Cabin sides	4						

Note*Ultrasonic readings are taken from the parent metal surface and relate only to the point of contact. The measurements should be read in conjunction with the report and do not take into account any pitting of the surrounding area

Date: 08-11-2016

ACMS
Worldwide