[redacted]

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

[redacted]

Report: Out of Water Insurance Survey on vessel : **" Columbina"**

Instructing Client: [redacted]
Date of Survey: 16-04-2025
Place of Survey: Middlewich Wharf, Middlewich ,Cheshire
Reason for Survey: To establish the general condition of the inspected vessel

Description of inspected vessel

" Columbina" is an all steel canal narrow boat in the cruiser stern style
Flat base with slab sides, upturned bow and tapering rounded stern
Vessel has an open forward well deck and open helm position
Built by Durham Steel Boatbuilders in 2003
Crt. Index: **509164** first registered in 2003
Vessel is undergoing a full ,back to metal re paint at the time of survey visit

Principal Dimensions

Loa: 55ft 0ins Beam: 6ft 10ins Stationary Draft: 26ins (Estimated from visible w/line)

Construction

All welded plate steel construction on steel internal frames, floors and stringers
Estimated original steel thickness:

10mm. 6mm. 4 mm.

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. 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

No opinion can be offered as to the condition of those sections of the vessel which may be obscured by trestles, supporting sleepers, trailers, tanks, ballast etc. Covers, floorings, linings, trims will **Not** be removed
Parts of the structure,so obscured, are not *"Readily accessible"* and can not be examined
. Floor bearers which are not open for inspection will not be examined and No opinion will be offered

"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 fouled by marine growth or otherwise coated, (including the base of the vessel) cannot be examined in detail. The accuracy of ultrasonic readings taken in these areas may also be reduced

Weed hatch covers should be removed Prior to any survey. The surveyor will not remove weed hatch lids which remain in-situ at the time of the survey. Meaning that his vital area can not be examined

All exterior lockers, including gas storage lockers, should be left empty and open for inspection.
Lockers containing Gas cylinders, ships stores or inventory will not be examined.
It is therefore 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".
Appliances are not tested and no comment on their operational condition is offered
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.
Engine mountings are Not Inspected and no comment is offered as to their condition

240volt electrical systems and LPG.gas systems are **Not** covered in the survey
Both of these systems should always be independently inspected and certified by a suitably qualified person
(EG. Statutory BSS. Boat Safety Scheme four yearly examination)
Tanks ,where visible, are inspected externally, but not internally.They will not be pressure tested, nor have their contents tested for contamination.

We recommend that any areas of deep pitting are locally "Pool Welded" wherever possible
Extensive areas of metal thinning should be cropped out and new metal inserted to a good standard
Over plating *(Doubling)* is not considered to be a permanent repair and should be utilised only where the above repair methods are not possible or impractical

Where steel vessels have been over plated, it is not possible to give assurance that the welded joints on the over plating work will be 100% water tight.
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 further stated that no liability will arise for any consequential or economic loss, loss of profits, business interruption or loss of use.

**NOTE It is the sole responsibility of the client to satisfy themselves that any necessary documentation for the vessel, with regard to RCD / RCR is present and correct and that any VAT / TAX which may be due on the vessel has been duly paid

Our liability shall expire **3 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 with the vessel resting upon trestles in Middlewich Wharf Dry dock Facility

Access to the base plate was satisfactory except for areas covered by supporting trestles

The hull was inspected by sighting along roof line and side decks, by hammer tap sounding and by random use of ultrasonic test equipment 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. This was found to be : 5.7mm

The hull was dry at the time of the survey,

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 by surface coatings.
It is therefore entirely possible that pitting deeper than that which is reported may exist.

A full and thorough evaluation of pitting / corrosion, can only be undertaken if all surface coatings have been removed and a shot blasting procedure undertaken in order to remove all rust and scale.

Narrowboats have a tendency to wear externally, by both abrasion and galvanic action.
They corrode both internally and externally.
The internal corrosion is caused usually by bilge water, created by several means including spillage, condensation; external leaks (eg. Stern gland) or bilge water from internal sources such as plumbing, plumbing joints, failed sealant around sinks, shower trays etc.

External corrosion can have several different causes including but not exclusively wind and waterline rust formation, electro chemical corrosion caused by the interaction of dissimilar metals in an electrolyte.
These dissimilar metals can be contained within cells of the parent steel i.e. carbon steel.
Electrolytic corrosion may be caused by a stray leak of electricity to earth which maybe onboard the craft or another source not onboard. If onboard it may be due to poorly fitted electrical items, 12volt or 240volt, poor connections etc. This is not uncommon on an older craft where additions of electrics have been added over the years by people with varying degrees of competency.

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. Hull has been recently blacked

Initial visual inspection of hull sides show that only moderate pitting is visible beneath the surface coatings.
This is more evident along the waterline, where nominal pitting exists at less than 1mm depth,
This is however a visual examination, situations can arise where pitting can be obscured by surface coatings.
It is therefore entirely possible that pitting deeper than that which is reported may exist beneath surface coatings

This degree of side pitting is commensurate with the age of the vessel and does not affect the structural integrity of the hull at this time.

Small areas were taken back to bare metal in order to facilitate accurate ultrasonic measurement

Nominal ultrasonic point thickness on hull sides, both above and below waterline is satisfactory for a vessel of this age / type and varied between 5.0mm and 5.8mm. *(Not including any existing pitting)*

The slightly thinner readings correspond to positions of internal pump out tanks.

The swim plating shows light to moderate pitting ,with nominal ultrasonic point thickness readings of
Port: 5.7mm Stbd: 5.7mm

Uxter Plating shows light to moderate pitting, commensurate with the age of the vessel ,with nominal ultrasonic point thickness readings of : 9.7mm.

The rounded counter stern is free from impact damage and shows nominal metal thickness of : 5.8mm.

In all cases the residual metal thickness, at the base of any pitting will be correspondingly less that the above measurements

All vertical welds that could be inspected were satisfactory

There are no signs of any major distortion of the vessel, other than the normal wear and tear / indentations

Through hull skin fittings on this vessel , although not at the recommended height of 250mm. above the waterline are in my opinion at an adequate height awl.

The recommended height of 250mm. awl.,is often difficult, if not impossible to achieve on a conventional narrow boat design.
Where skin fitting heights fall significantly below this recommended level, all internal pipework should be of a high grade, marine quality *(No push type fittings)* and should be double clipped with stainless fastenings up to the internal appliance. *(Which itself should terminate at 250mm. or more above the waterline)*

Where the internal appliance terminates at less than 250mm awl. (*Shower tray, washing machine etc.*)and if drained directly overboard, it should be fitted with an internal sea cock or gate valve, which can be locked off when vessel is left for extended periods

Check should also be made to ensure that an anti syphon loop, extending to 10ins above waterline is fitted to shower discharge outlet *(Behind internal panelling)*

BSS. [10.4] *Any openings in the hull must be at least 250mm above the normal laden water line. However, if this cannot be achieved for, say, a sink outlet, you should ensure that the outlet pipe within the vessel is watertight to that height inside the vessel. This will achieve the same objective of preventing water seeping into the boat. The pipe joints need to be clipped to remain watertight - push-fit plumbing is not recommended in case it comes apart under pressure.*

Forward and after entry and exit lines are satisfactory

General fabrication is to a satisfactory standard as viewed externally.

Internal plating, floors and framing could not be inspected due to the presence of linings and I cannot confirm that these areas are free from defect.

The protective surface coating on the hull sides is serviceable

Sacrificial anodes remain serviceable

The all around,belted rubbing strakes are in satisfactory order

The sacrificial wear edge,which is intended to protect the welded joint between hull sides and base plate is in satisfactory order. Wear protection strips have been attached along full length of hull sides

The base plate was found to be moderately fouled.

** It should be noted that point thickness readings on the base are indicative of the small test areas that can be cleaned of aquatic growth and rust. These readings may be interpreted as an average and it is entirely possible that thinner areas of metal do exist beneath said growth / rust. The only way to accurately map the entire base plate thickness is to have the base shot blasted back to bare metal prior to examination

The base plate appears to be uniform in construction, with no signs of buckled plate work and only slight undulation. Where fouling was removed, the base plate exhibits visible signs of moderate pitting

As previously stated,detailed inspection opinions and measurements of the base plate relate only to the small areas that could be cleaned back to bare surface metal.

In the areas that could be examined in detail, the general pitting on base is less than 1mm
This pitting does not affect the integrity of the vessel at this time.

Nominal thickness obtained from several ultrasonic point measurements on the base plate vary between :
9.4mm and 9.8mm

Residual thickness at the base of pits will obviously be less than the above

Transverse welds, were not clearly visible

The vessel was fully fitted out, which severely restricted any inspection of the hull internal surfaces.

Note* Evidence of corrosion can be covered / filled, in order to deliberately mislead the surveyor. Unless the vessel has been shot blasted back to bare metal prior to the survey, we can take no responsibility for areas of corrosion that have been so covered / filled

Decks / Superstructure

The bow / stem was found to be in satisfactory order.
Gas locker is correctly drained at lower level,
Well deck flooring is in satisfactory order
Welded joints around well deck floor are satisfactory
All welded joints on the upper area of fwd. bulkhead area are in satisfactory order and show no signs of movement
Cabin sides show no signs of any major indentation,impact damage or undue distortion.
The tumblehome strake area is in satisfactory order
The side decks are relatively straight and show no signs of any major impact damage or distortion.
The cabin roof is provided with adequate high level ventilation .
Cabin roof handrails are of the tubular type and are well affixed.
The aft. deck is in satisfactory order.
All welded joints in this area are satisfactory and show no signs of movement or distortion.
The aft deck support framework and drainage is in satisfactory condition
All mooring bollards securely attached
Paint system on superstructure is generally in satisfactory order.
No leakage tests were carried out on cabin

Hatches / Windows

Sliding main hatch is satisfactory
Fwd. cabin access doors are satisfactory
Aft. cabin access doors are satisfactory
All window frames are in satisfactory order, all glass is intact
The integral weed hatch is structurally in satisfactory order
Weed hatch lid freeboard is adequate

*Paragraph from **BSS. 10.7.1***
(Weed hatch lid freeboard height)Stern propeller weed hatch openings within the interior of the vessel must be at least 150mm above the normally laden waterline. Lid sealing gasket must show no signs of deterioration or failure. Although specifically worded to apply to Hire vessels, this has now become the industry standard accepted by most surveyors and marine insurance companies

Steering

The steering system consists of a steel swan-neck, steel stock and a flat plate balanced rudder blade.
The rudder blade measuring: 23ins x 15ins Is in satisfactory order
Tiller stock is not positioned centrally within the tiller stock tube (Email Pic)
Lower rudder supporting cup bearing is badly worn and should be replaced.
The new cup should be attached further aft ,if possible to position the tiller stock more centrally (Email Pics)
Upper stock bearing remains serviceable
Rudder supporting skeg is in satisfactory order
Tiller operates smoothly from hard over to hard over

*Note. Internal surfaces of the tiller stock tube could not be examined and no opinion as to its. condition can be offered

Engine Installation *(Mechanical condition of engine / transmission is beyond the scope of this hull survey)*

A relatively new, 4cylinder Vetus diesel engine of approx. 45hp. Drives a three bladed 17in. propeller (r/h) through a reduction gearbox.
Engine / transmission is visually in satisfactory order. *(Engine Mountings Not Inspected)*
Engine started easily and without excessive smoking. Transmission selected directions smoothly and positively
Engine bed also provides for an oil tight catchment area below the engine , as is required.
The propeller was percussion tested which suggested there were no cracks to the blades.
The propeller blades have suffered only minor impacts.
Surface scraping was carried out and no undue cracking or major 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 be serviceable

Electrical System / Gas

240 volt system has not been examined and should be checked by a qualified electrician before use
Gas system has not been examined and should be checked by a Gas Safe engineer before use.

Engine start and leisure batteries are well secured within the engine bay
Isolation switches are fitted to main circuits
12v distribution panel is fitted, with all circuits switch / fuse protected
Cursory examination of 12volt electrical system shows it to be in satisfactory order
All cabin lighting is operational
Lighting over galley and toilet have electric ventilation
Fresh water pump system is operational
Shower discharge pump is operational
Engine bay electric bilge pump is operational
Adequate fire fighting equipment is stowed along with a fire blanket in galley

At least one, adult size life ring should be stowed in an easily accessible place (Coach roof)

NB. All Electrical systems, both 12v and 240v, as well as any gas installation and engine fuel delivery pipework are examined in greater detail on the compulsory four yearly BSS. Examination.
A safety certificate covering these systems is issued at the time of the BSS. Examination

Internal Fit out

All internal soft furnishings had been removed prior to survey visit

Tin lined steel aft doors lead down central steps into aft cabin, with convertible seating /berth
Adequate storage facilities in aft cabin

“U” shaped galley to Port with full size 4 burner Thetford cooker
Shoreline refrigerator and microwave oven, stainless steel sink unit

Various dining tables attached to corridor wall

Toilet compartment to Stbd., with pump out toilet and hand wash basin

A fold out double berth centrally
2nd toilet compartment to Port with shower / hip bath and hand wash basin

The master fixed double bedroom is equipped with side galley type doors and top opener
Some water ingress damage to linings of galley doors (Email Pic)

No access to well deck from master bedroom
Alde, boiler type heating system in cabin, with 4 x wall mounted radiators

General Observations on this Out of Water Survey.

The vessel **" Columbina"** as visually inspected, is found to be structurally sound and in good order throughout at the time of this survey

Full bare metal re paint being carried out and internal tidying.

A) Lower rudder support cup bearing should be replaced/ fitted so as to position the tiller stock more centrally

Any other points **Noted in Blue** within this report should be addressed whenever it is practical to do so

We would value **"Columbina"** at around **£55,000** at the time of this survey

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.

[redacted]

[redacted]

Principal Surveyor : [redacted]

GLOSSARY OF TERMS USED

The use of the word **appears / appeared** indicates that a close inspection of that component/system/area was not possible due to constraints imposed upon the surveyor .(e.g. no power available, inability to remove panels).
The use of the word **serviceable / adequate** indicates that particular system, component or item is sufficient for a specific requirement.
The use of the word **satisfactory** indicates that the component / system is in good order with only cosmetic discrepancies noted.
The use of the word **fair** indicates that the component / system is functional as is, and should be monitored often to see if its condition deteriorates.
The use of the word **poor** indicates that the component/system is unsuitable as is, and will need to be replaced or repaired for it to be considered functional.

Accessible Capable of being reached for operation, inspection or maintenance without removal of permanent boat structure or use of any tools or removal of any item.
Anti-cavitation plate, Or swash plate - A plate fitted flush or almost flush to the counter plate to cover the weed hatch aperture.
At Risk A condition where the appliance or installation, if operated, may lead to a situation which could create a risk to life or property.
Cant A raised outer section of a deck: normally to the fore and counter decks.
Chine Change of angle in hull side, There may be several chines, depending upon the hull design.
Cratch board A vertical frame, normally triangular, fitted to the fore deck to provide support for covers.
Dolly A round bollard used for mooring.
Fire resistant An item having the property whereby it will not catch fire under normal conditions.
Fire retardant An item having the property whereby the spread of fire is reduced.
Foot or footing The lower section of the hull side immediately above the bottom plate.
Gunwale The top edge to the hull side. This is sometimes spelt gunnel
Hogging / Sagging General longitudinal curvature of a hull in one direction or another
Knee Internal support framing for the hull side, generally vertical. In some craft it may extend to also support the bottom plate.
Nominal The basic manufactured dimension.The actual dimension may be larger or smaller, within appropriate tolerances.
Non-Slip Anti-slip material or admixture to paint to create a less slippery surface.
Overplate Plating fitted on top of the hull or side plate.
Residual plate thickness The calculated steel plate thickness, after considering the deepest pit measured and the nominal plate thickness.
Rudder balance Section of the rudder forward of the rudder stock.
Rudder stock A steel bar connecting the rudder blade to the swanneck tiller.
Rudder tube A tube fitted between the counter plate and deck, housing the rudder stock to pass through.
Sacrificial chine See wear edge
Saponification Production of an alkaline metal soap that softens some paint coatings.
Scantling The size of structural members and plating.
Skeg A projection beneath the bottom shell which may extend below below the propeller to support the rudder.
Skin tank A steel tank fitted to the internal hull, used for engine or generator cooling with at least one face being the hull plating. The tank contents are cooled by the external water via the hull plating.
Stringer Longitudinal internal support framing for the hull side or bottom.
Swan neck tiller A steel bar bent into an S- shape, fitted to the rudder stock at the bottom and with the tiller bar at the top.
Swim The section of the hull side below the counter at the stern of a motorboat that reduces in beam to allow water to flow to the propeller.
Tumblehome. Where the hull or superstructure cants inboard (opposite to flare).
Tumblehome strake Upper section of the hull side canted inboard.
Ultrasonic meter A hand-held electronic device with a small probe that indicates material thickness by recording the speed of sound through the material.
Uxter or counter plate; horizontal section of hull above the propeller.
Wear Edge Extended section of the base plate or Uxter incorporated to protect a structural welded joint from abrasion
Weed hatch An aperture directly above a propeller, enabling removal of debris from the propeller.