

REPORT ON BOILERS.

Received at London Office **31 AUG 1950**

Date of writing Report 19 29. 8. 19 50 When handed in at Local Office 29. 8. 19 50 Port of Glasgow.

No. in Reg. Book. 95005 Survey held at Glydebank Date, First Survey 25 Machy opt Last Survey 19

on the "OTTAWA" (Number of Visits) Gross 11575 Tons Net 7569.

Master ✓ Built at Glydebank By whom built John Brown & Co. Ltd. Yard No. 654 When built 1950-8.

Engines made at Glydebank By whom made John Brown & Co. Ltd. Engine No. 654 When made 1950.

Boilers made at Glydebank By whom made John Brown & Co. Ltd. Boiler No. 654 When made 1950.

Nominal Horse Power 448. Owners Unitas, Inc. Port belonging to Panama City.

MULTITUBULAR BOILERS ~~MAIN, AUXILIARY, OR DONKEY.~~

Manufacturers of Steel Colvilles Ltd. (Letter for Record S.)

Total Heating Surface of Boilers 5380 sq. ft. = 2600 Is forced draught fitted yes ✓ Coal or Oil fired Oil fired.

No. and Description of Boilers Two Cylindrical Multitubular. Working Pressure 180 lb/sq"

Tested by hydraulic pressure to 320 lb/sq" Date of test 19.5.50. No. of Certificate 23141 Can each boiler be worked separately yes

Area of Firegrate in each Boiler ✓ No. and Description of safety valves to each boiler 2 @ 2 1/2" I.H.L.

Area of each set of valves per boiler per Rule 18.70" Pressure to which they are adjusted 185 lb/sq" Are they fitted with easing gear yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler ✓

Smallest distance between boilers or uptakes and bunkers or woodwork Ample Is oil fuel carried in the double bottom under boilers no.

Smallest distance between shell of boiler and tank top plating ✓ Is the bottom of the boiler insulated yes ✓

Largest internal dia. of boilers 15'-0" Length 12'-0" Shell plates: Material Steel Tensile strength 28/32 tons/sq"

Thickness 1 5/16" Are the shell plates welded or flanged no ✓ Description of riveting: circ. seams DR.

long. seams T.R.D.B.S. Diameter of rivet holes in circ. seams 1 1/4" Pitch of rivets 3.849"

Percentage of strength of circ. end seams plate 62.6 rivets 48.7 Percentage of strength of circ. intermediate seam plate ✓ rivets ✓

Percentage of strength of longitudinal joint plate 85.8 rivets 87.2 combined 89.0 Working pressure of shell by Rules 181 lb/sq"

Thickness of butt straps outer 1 5/16" inner 1 1/16" No. and Description of Furnaces in each Boiler Three "Morrison" Corrugated

Material Steel. Tensile strength 26/30 tons Smallest outside diameter 44 1/8"

Length of plain part top ✓ bottom ✓ Thickness of plates 9" Description of longitudinal joint Welded.

Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules Approved.

End plates in steam space: Material Steel Tensile strength 26/30 tons Thickness 1 3/16" Pitch of stays 18" x 19 3/4"

How are stays secured Double nuts. Working pressure by Rules Approved.

Tube plates: Material front Steel back Steel Tensile strength 26/30 tons Thickness 27/32"

Mean pitch of stay tubes in nests 9.875" Pitch across wide water spaces 14" Working pressure front approved

Girders to combustion chamber tops: Material Steel Tensile strength 28/32 tons Depth and thickness of girder

at centre 11 1/2" Length as per Rule 33.53" Distance apart 8 1/2" 8" 7 1/2" No. and pitch of stays

in each fusion welded to c.c. top plating Working pressure by Rules approved. Combustion chamber plates: Material Steel

Tensile strength 26/30 tons Thickness: Sides 27/32" Back 1/16" Top 27/32" Bottom 27/32"

Pitch of stays to ditto: Sides 9 1/4" x 9" Back 9.33" x 8 1/2" Top none Are stays fitted with nuts or riveted over Welded in chamber

Working pressure by Rules approved. Front plate at bottom: Material Steel Tensile strength 26/30 tons

Thickness 27/32" Lower back plate: Material Steel Tensile strength 26/30 tons Thickness 27/32"

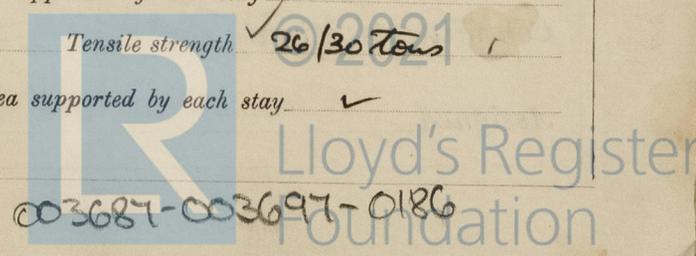
Pitch of stays at wide water space 14" x 8 1/2" Are stays fitted with nuts or riveted over nuts.

Working Pressure approved. Main stays: Material Steel Tensile strength 28/32 tons

Diameter At body of stay, 2 7/8" or Over threads, 3 1/8" No. of threads per inch 6. Area supported by each stay ✓

Working pressure by Rules approved. Screw stays: Material Steel Tensile strength 26/30 tons

Diameter At turned off part, 2", 1 7/8", 1 3/4", 1 5/8" or Over threads No. of threads per inch 9. Area supported by each stay ✓



Working pressure by Rules *Approved*. Are the stays drilled at the outer ends *no* Margin stays: Diameter { At turned off part, or Over threads } *1 3/4"*

No. of threads per inch *9* Area supported by each stay *✓* Working pressure by Rules *approved*.

Tubes: Material *Steel* External diameter { Plain *2 3/4"* Stay *2 3/4"* } Thickness { *9 w.g.* } No. of threads per inch *9*.

Pitch of tubes *(12" x 7 3/4") 4" x 3 7/8"* Working pressure by Rules *approved*. Manhole compensation: Size of opening in shell plate *20 1/2" x 16 1/2"* Section of compensating ring *1 3/16" x 18 3/16" + flanging* No. of rivets and diameter of rivet holes *42 @ 1 1/4"*

Outer row rivet pitch at ends *8 1/16"* Depth of flange if manhole flanged *Top 4" Bottom 3 3/8"* Steam Dome: Material

Tensile strength Thickness of shell Description of longitudinal joint

Diameter of rivet holes Pitch of rivets Percentage of strength of joint { Plate Rivets }

Internal diameter Working pressure by Rules Thickness of crown No. and diameter of stays

How connected to shell Inner radius of crown Working pressure by Rules

Size of doubling plate under dome Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell

Type of Superheater Manufacturers of Tubes { Steel forgings Steel castings }

Number of elements Material of tubes Internal diameter and thickness of tubes

Material of headers Tensile strength Thickness Can the superheater be shut off and the boiler be worked separately

Is a safety valve fitted to every part of the superheater which can be shut off from the boiler

Area of each safety valve Are the safety valves fitted with easing gear Working pressure as per Rules

Pressure to which the safety valves are adjusted Hydraulic test pressure: tubes forgings and castings and after assembly in place Are drain cocks or valves fitted to free the superheater from water where necessary

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with *yes*

John Brown & Company, Limited.
The foregoing is a correct description,
[Signature] Secretary, Manufacturer.

Dates of Survey { During progress of work in shops - - } Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)

{ During erection on board vessel - - - } Total No. of visits.

See Macley report

Is this Boiler a duplicate of a previous case *yes*. If so, state Vessel's name and Report No. *"Vikfoss" Gls Rept No 75347.*

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *These boilers have been constructed under special survey in accordance with the requirements of the Rules & the approved plan. The materials & workmanship are good.*

The boilers have been efficiently installed on board the vessel & tried under working conditions. The safety valves have been adjusted under steam as above & a satisfactory accumulation test carried out.

Survey Fee ... *See Macley report* } When applied for, 19

Travelling Expenses (if any) £ : : } When received, 19

J. D. Dilliston
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *GLASGOW 30 AUG 1950*

Assigned *THE ACCOMPANYING MACHINERY REPORT*