

REPORT ON BOILERS.

No. 11,094

20 JUL 1942

Received at London Office

Date of writing Report 16th July 1942 When handed in at Local Office 14th July 1942 Port of Manchester

No. in Survey held at Hyde, near Manchester Date, First Survey 17-11-41 Last Survey 25-5-1942

on the "British Merit" (Number of Visits 17) Tons {Gross _____ Net _____}

Master Glasgow Built at Glasgow By whom built Harland & Wolff Ltd Yard No. 1117G When built 1942

Engines made at Hyde, near Manchester By whom made J. Adamson & Co. Ltd. Engine No. 99 When made 1942

Boilers made at Hyde, near Manchester By whom made J. Adamson & Co. Ltd. Boiler No. 100 When made 1942

Nominal Horse Power 128 each boiler Owners _____ Port belonging to _____

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Cobills Ltd. Glasgow (Letter for Record S)

Total Heating Surface of Boilers 1918 sq. ft. each boiler Is forced draught fitted Yes Oil fired and/or egh. gas. Oil fired

No. and Description of Boilers Two S.E. Cyl = Multitubular Donkey Boilers Working Pressure 150 lb/sq. in.

Tested by hydraulic pressure to 275 lb. Date of test 4-5-42 No. of Certificate 100 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler ✓ No. and Description of safety valves to each boiler Not fitted by J. Adamson & Co.

Area of each set of valves per boiler {per Rule ✓ as fitted ✓ Pressure to which they are adjusted ✓ Are they fitted with easing gear ✓

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 ✓ Is oil fuel carried in the double bottom under boilers ✓

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

Largest internal dia. of boilers 12'-6" Length 11'-0" inside Shell plates: Material S.M. Steel Tensile strength 29-33 T.

Thickness 7/8" Are the shell plates welded or flanged No Description of riveting: circ. seams {end Double inter. ✓

Long. seams Double riv. double butt straps Diameter of rivet holes in {circ. seams 13/32" 13/32 Pitch of rivets {inter. 3.038" ✓ long. seams 1/32" ✓ Pitch of rivets { 6 1/16" ✓

Percentage of strength of circ. end seams {plate 64.0 rivets 56.0 Percentage of strength of circ. intermediate seam {plate 84.57 rivets 106.7

Percentage of strength of longitudinal joint {plate 84.57 rivets 106.7 combined 90.5 Working pressure of shell by Rules 154.6 lb/sq. in.

Thickness of butt straps {outer 1 1/16" inner 13/16" No. and Description of Furnaces in each Boiler Two corrugated, Deighton section.

Material S.M. Steel Tensile strength 26-30 T. Smallest outside diameter 3'-6"

Length of plain part {top ✓ bottom ✓ Thickness of plates {crown 1/2" bottom 1/2" Description of longitudinal joint weld.

Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules 171 lb.

End plates in steam space: Material S.M. Steel Tensile strength 26-30 T. Thickness 15/16" Pitch of stays 15" x 16 3/4"

How are stays secured double nuts Working pressure by Rules 159.7 lb.

Tube plates: Material {front S.M. Steel back S.M. Steel Tensile strength { 26-30 T. Thickness { 7/8" 13/16"

Mean pitch of stay tubes in nests 9.53" Pitch across wide water spaces 13 1/2" x 7 1/4" Working pressure {front 161.4 lb. back 261.6 lb.

Girders to combustion chamber tops: Material S.M. Steel Tensile strength 28-32 T. Depth and thickness of girder

at centre 8 1/4", 1 1/2" (3x) Length as per Rule 29 15/16" Distance apart 11" No. and pitch of stays

in each 3 at 7 1/4" Working pressure by Rules 162.3 lb. Combustion chamber plates: Material S.M. Steel

Tensile strength 26-30 T. Thickness: Sides 3/4" Back 3/4" Top 3/4" Bottom 3/4"

Pitch of stays to ditto: Sides 9 3/4" x 8 1/4" Back 8" x 9 1/4" Top 7 1/4" x 11" Girders + margin stays with nuts inner end other rivetted over.

Working pressure by Rules 162.5 lb. Front plate at bottom: Material S.M. Steel Tensile strength 26-30 T.

Thickness 7/8" Lower back plate: Material S.M. Steel Tensile strength 26-30 T. Thickness 15/16"

Pitch of stays at wide water space 13" x 9 1/4" Are stays fitted with nuts or rivetted over Riveted over.

Working Pressure 188.3 lb. Main stays: Material S.M. Steel Tensile strength 28-32 T.

Diameter {At body of stay, 2 1/2" No. of threads per inch 6 Area supported by each stay 255.4 sq. in. or Over threads _____

Working pressure by Rules 173.4 lb. Screw stays: Material S.M. Steel Tensile strength 26-30 T.

Diameter {At turned off part, 1 1/2" No. of threads per inch 11 Area supported by each stay 80.44 sq. in. or Over threads _____

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Working pressure by Rules 155.9 lb. Are the stays drilled at the outer ends *Mr.* Margin stays: Diameter $1\frac{5}{8}$, 2" at corners

No. of threads per inch 11 Area supported by each stay 97.12 sq. ins. Working pressure by Rules 156.7 lbs.

Tubes: Material *S.M. Steel* External diameter $2\frac{1}{2}$ " Thickness 10 LSG. No. of threads per inch 9

Pitch of tubes $3\frac{3}{4} \times 3\frac{7}{8}$ Working pressure by Rules 150 lb. Manhole compensation: Size of opening

shell plate $12\frac{1}{2} \times 16\frac{1}{2}$ Section of compensating ring $17\frac{9}{16} \times \frac{3}{4}$ No. of rivets and diameter of rivet holes $28 - 1\frac{7}{32}$ dia

Outer row rivet pitch at ends 9 " Depth of flange if manhole flanged 2 " (welded ring) Steam Dome: Material

Tensile strength Thickness of shell Description of longitudinal joint

Diameter of rivet holes Pitch of rivets Percentage of strength of joint

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

Inner radius of crown Working pressure by Rules

How connected to shell 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 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 from the boiler

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 casing gear Working pressure as per Rules

Pressure to which the safety valves are adjusted Hydraulic test pressure

tubes, 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 23 inclusive for boilers been complied with *Yes.*

The foregoing is a correct description,
 FOR JOSEPH AMSON & CO. LIMITED,
 JOINT MANAGING DIRECTOR.

Dates of Survey	During progress of work in shops - -	17-11-41, 5-1-42, 16-2-42, 16-3-42, 26-3-42, 30-3-42, 7-4-42, 14-4-42, 21-4-42, 2-5-42, 4-5-42, 6-5-42	Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)	18-11-41
	while building	During erection on board vessel - -		
			Total No. of visits	

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

These boilers have been constructed under Special Survey of tested materials and in accordance with the Secretary's letters, approved plans and the requirements of the Rules. The material and workmanship are of good quality, and the boilers when tested in the shop under hydraulic pressure of 275 lbs/sq. inch were found sound and tight. These boilers are in my opinion, suitable to be fitted on board a vessel classed with this Society for the purpose intended.

For identification purposes, the boilers were marked:-

N ^o 99	N ^o 100
LLOYD'S TEST	LLOYD'S TEST.
275 LBS	275 LBS.
W.P. 150 LBS	W.P. 150 LBS.
W.T.M. 4.5.42	E.L.K. 21.5.42.

Survey Fee $\pm 25 : 12 : 0$ When applied for, 17-7-1942

25% for Supervision of Spec. $\pm 6 : 8 : 0$

Travelling Expenses (if any) $\pm 4 : 10 : 0$ When received, 192

L. J. Matheson & Knowles
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned