

REPORT ON BOILERS.

No. 11889

Received at London Office 13 FEB 1937

Date of writing Report

192

When handed in at Local Office

12-2-

1937

Port of *Belfast.*No. in Survey held at
Reg. Book.*Belfast*

Date, First Survey

25 Aug 1936

Last Survey

22-1-37

192

(Number of Visits *24*)Gross *5494.99*Tons *Net 3286.12.*

on the

M.V. "SALACIA"

Master

Built at *Glasgow.*

By whom built

*Harland & Wolff Ltd.*Yard No. *982 G*When built *1937*

Engines made at

Glasgow.

By whom made

*Harland & Wolff Ltd.*Engine No. *982 G*When made *1937*

Boilers made at

Belfast

By whom made

*Harland & Wolff Ltd.*Boiler No. *982 G*When made *1937*

Nominal Horse Power

Owners *Donaldson Line Ltd.*

Port belonging to

Glasgow.

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Colvilles Ltd.(Letter for Record *S*)

Total Heating Surface of Boilers

*25200 sq ft.*Is forced draught fitted *no.*Fuel *Oil fired*

No. and Description of Boilers

*One cylindrical*Working Pressure *120 lbs*

Tested by hydraulic pressure to

230 lbs

Date of test

22-1-37

No. of Certificate

*1026*Can each boiler be worked separately *yes*

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler

2 3/4 double spring Improved High lift

Area of each set of valves per boiler

per Rule 23.3 sq ft.

Pressure to which they are adjusted

*120 lbs/sq in.*Are they fitted with easing gear *yes*In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler *yes*

Smallest distance between boilers or uptakes and bunkers or woodwork

Is oil fuel carried in the double bottom under boilers *yes*

Smallest distance between shell of boiler and tank top plating

*2' 3"*Is the bottom of the boiler insulated *yes*

Largest internal dia. of boilers

15'-0"

Length

11'-3"

Shell plates: Material

S

Tensile strength

29/33

Thickness

*5/16"*Are the shell plates welded or flanged *no*

Description of riveting: circ. seams

end DR

Long. seams

Double riveted DBS

Diameter of rivet holes in

*circ. seams 1 1/16"**long. seams 1 5/16"*

Pitch of rivets

3-021"

Percentage of strength of circ. end seams

*plate 64.8%**rivets 56%*

Percentage of strength of circ. intermediate seam

plate

Percentage of strength of longitudinal joint

*plate 85.7%**rivets 94.5%**combined 90.15%*

Working pressure of shell by Rules

123 lbs

Thickness of butt straps

*outer 5/8"**inner 3/4"*

No. and Description of Furnaces in each Boiler

3 Deighton

Material

S

Tensile strength

26/30

Smallest outside diameter

3'-6 7/8"

Length of plain part

*top**bottom*

Thickness of plates

*crown 7/16"**bottom 7/16"*

Description of longitudinal joint

Weld

Dimensions of stiffening rings on furnace or c.c. bottom

Working pressure of furnace by Rules

145 lbs

End plates in steam space: Material

S

Tensile strength

26/30

Thickness

1"

Pitch of stays

20" x 18 1/2"

How are stays secured

D.N.

Working pressure by Rules

131 lbs

Tube plates: Material

*front S**back*

Tensile strength

26/30

Thickness

13/16"

Mean pitch of stay tubes in nests

10-4375"

Pitch across wide water spaces

14"

Working pressure

*front 123 lbs**back 218 lbs*

Girders to combustion chamber tops: Material

S

Tensile strength

25/32

Depth and thickness of girder

at centre

8" 1 1/2"

Length as per Rule

2'-9 7/8"

Distance apart

10 7/8"

No. and pitch of stays

in each

3 x 9"

Working pressure by Rules

124 lbs

Combustion chamber plates: Material

S

Tensile strength

26/30

Thickness: Sides

5/8"

Back

9/16"

Top

5/8"

Bottom

1 1/16"

Pitch of stays to ditto: Sides

9 x 10"

Back

8 1/2 x 9"

Top

*9 x 10 7/8"*Are stays fitted with nuts or riveted over *Nuts*

Working pressure by Rules

149, 141, 136

Front plate at bottom: Material

S

Tensile strength

26/30

Thickness

13/16"

Lower back plate: Material

S

Tensile strength

26/30

Thickness

3/4"

Pitch of stays at wide water space

*12 3/4 x 9"*Are stays fitted with nuts or riveted over *N.*

Working Pressure

186

Main stays: Material

S

Tensile strength

28/32

Diameter

*At body of stay, 2 5/8"**Over threads*

No. of threads per inch

6

Area supported by each stay

410 sq in.

Working pressure by Rules

123.8 lbs

Screw stays: Material

S

Tensile strength

26/30 tons

Diameter

*At turned off part, 1 1/2", 1 3/8", 1 1/2", 1 3/4"**Over threads*

No. of threads per inch

9

Area supported by each stay

90, 96.5, 98.5

Working pressure by Rules 139, 132, 128 Are the stays drilled at the outer ends No Margin stays: Diameter ^{At turned off part, or Over threads} 1 1/2"

No. of threads per inch 9 Area supported by each stay 93.325" Working pressure by Rules 134

Tubes: Material W.I. External diameter ^{Plain} 3" Thickness ⁸⁴⁶ 1/4" 3/32 No. of threads per inch 9

Pitch of tubes 4 1/4 x 4 1/8" Working pressure by Rules 180 Manhole compensation: Size of opening in shell plate 16 x 12" Section of compensating ring 3'-0" x 2'-8" x 3/4" No. of rivets and diameter of rivet holes 28 - 1 3/16"

Outer row rivet pitch at ends 9" Depth of flange if manhole flanged ✓ 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 ✓

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

Number of elements ✓ Material of tubes ✓ Manufacturers of ^{Tubes} ✓ ^{Steel castings} ✓ 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 ✓, 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 32 inclusive for boilers been complied with ✓

The foregoing is a correct description,
For HARLAND AND WOLFF, LIMITED.
A. J. Marshall Manufacturer.
Assistant Secretary.

1936
Dates of Survey ^{During progress of work in shops - -} Aug 25 Sept 11. 14. 24 Oct 8. 13. 26 Are the approved plans of boiler and superheater forwarded herewith Yes
^{while building} ^{During erection on board vessel - - -} Nov. 5. 30. Dec. 8. 9. 10. 16. 19. 18. 22 (If not state date of approval.)
Jan 6. 16. 19. 22. 27 Feb 5. 22 Total No. of visits 24

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

This boiler has been constructed under special survey and to an approved plan. The materials & workmanship are sound & good. It has been subjected to a hydraulic pressure test in accordance with the Rules, with satisfactory results. It is being fitted in a vessel building at Glasgow.

This boiler has been efficiently fitted & secured in position on board the M.V. "SALACIA", tried under working conditions & found good. The safety valves have been adjusted under steam & tried for accumulation with satisfactory results.

Survey Fee ... £ 16 : 16 : 0 When applied for, 12. 2. 1937
Travelling Expenses (if any) £ : : When received, 12. 3. 1937

Charles J. Hunter. H. Campbell.
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **GLASGOW 24 AUG 1937**

Assigned *See Gls. Rpt. No. 58710.*



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Foundation