

(See. Leith Report No. 20674)

Rpt. 5a.

REPORT ON BOILERS.

No. 65197

12 MAR 1942

Received at London Office

Date of writing Report 28th Feb 1942 When handed in at Local Office 9: 3: 10⁴² Port of Glasgow

No. in Reg. Book. Survey held at Glasgow Date, First Survey 28: 8: 41 Last Survey 24: 2: 1942

on the SS. "WILLIAM PEARMAN" (Number of Visits 33) Tons { Gross Net

Master Built at Burntisland By whom built Burntisland S.B. Co. Yard No. 257 When built 1942

Engines made at Glasgow By whom made Messrs David Rowan & Co Engine No. 1098 When made 1942

Boilers made at Glasgow By whom made Messrs David Rowan & Co Boiler No. 1098 When made 1942

Nominal Horse Power 184 Owners _____ Port belonging to _____

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Colvilles Ltd (Letter for Record S)

Total Heating Surface of Boilers 2750 sq ft Is forced draught fitted Yes Coal or Oil fired Coal

No. and Description of Boilers One Single Ended Working Pressure 200 lbs/sq in

Tested by hydraulic pressure to 350 lbs Date of test 2-2-42 No. of Certificate 20968 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler 63.2 sq ft No. and Description of safety valves to each boiler 2-3/4" dia. double spring

Area of each set of valves per boiler { per Rule 15.99" as fitted 16.59" Pressure to which they are adjusted 200 lbs. Are they fitted with easing gear Yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler front of boiler to bunker = 7'-0"

Smallest distance between boilers or uptakes and bunkers or woodwork front of boiler to bunker = 7'-0" Is oil fuel carried in the double bottom under boilers Yes

Smallest distance between shell of boiler and tank top plating No tank Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 15'-9 1/4" Length 11'-6" Shell plates: Material S Tensile strength 29/33 Tons/sq in

Thickness 1 3/8" Are the shell plates welded or flanged No Description of riveting: circ. seams { end DR. Kop inter. DR. Kop }
 long. seams TR.D.B.S. Diameter of rivet holes in { circ. seams BE. 1 7/16" FE. 1 5/16" Pitch of rivets { BE. 3.94" FE. 3.364" }
 long. seams 1 7/16"

Percentage of strength of circ. end seams { plate BE. 63.5 FE. 61.0 } rivets BE. 47.8 FE. 46.5 Percentage of strength of circ. intermediate seam { plate 85.16 rivets 89.3 }
 combined 88.4 Working pressure of shell by Rules

Percentage of strength of longitudinal joint { plate 85.16 rivets 89.3 } combined 88.4

Thickness of butt straps { outer 1 3/4" inner 1 1/4" } No. and Description of Furnaces in each Boiler 3 Deighton Section

Material S Tensile strength 26/20 Tons/sq in Smallest outside diameter 3'-11 7/16"

Length of plain part { top 2 1/32" bottom 2 1/32" } Thickness of plates { crown 2 1/32" bottom 2 1/32" } Description of longitudinal joint welded

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

End plates in steam space: Material S Tensile strength 26/30 Tons/sq in Thickness 1 3/8" Pitch of stays 22" x 20"

How are stays secured Double nuts Working pressure by Rules 29/32"

Tube plates: Material { front S back S } Tensile strength { 26/30 Tons/sq in } Thickness { 25/32" }
 lean pitch of stay tubes in nests 10.75" Pitch across wide water spaces 14" Working pressure { front 29/32" back 25/32" }

Girders to combustion chamber tops: Material S Tensile strength 28/32 Tons/sq in Depth and thickness of girder
 at centre 8 7/8" x 7/8" Length as per Rule 2'-10 7/32" Distance apart 7 1/4" C ; 9" W No. and pitch of stays
 in each 3 @ 8 1/4" Working pressure by Rules

Combustion chamber plates: Material S
 Tensile strength 26/30 Tons/sq in Thickness: Sides 2 1/32" W Back 1 1/16" Top 2 1/32" Bottom 25/32"

Pitch of stays to ditto: Sides 8 1/4" x 9 1/8" Back 8 1/2" x 9 1/8" Top 8 1/4" x 9" Bottom 8 1/4" x 7 1/4" Are stays fitted with nuts or riveted over Nuts

Working pressure by Rules 29/32" Front plate at bottom: Material S Tensile strength 26/30 Tons/sq in

Thickness 29/32" Lower back plate: Material S Tensile strength 26/30 Tons/sq in Thickness 25/32"

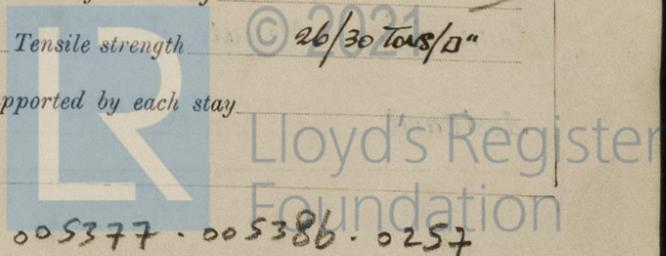
Pitch of stays at wide water space 18 1/2" Are stays fitted with nuts or riveted over Nuts

Working Pressure 28/32 Tons/sq in Main stays: Material S Tensile strength 28/32 Tons/sq in

Diameter { At body of stay, 6 @ 3 1/4" 4 @ 3" } No. of threads per inch 6 Area supported by each stay

Working pressure by Rules 26/30 Tons/sq in Screw stays: Material S Tensile strength 26/30 Tons/sq in

Diameter { At turned off part, 1 5/8" 1 3/4" W & E } No. of threads per inch 9 Area supported by each stay



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Working pressure by Rules *no* Are the stays drilled at the outer ends *no* Margin stays: Diameter { At turned off part, or Over threads *1 3/4", 1 7/8" 2" & 2 1/4" at top inner corner*

No. of threads per inch *9* Area supported by each stay Working pressure by Rules *8 w.c.*

Tubes: Material *S* External diameter { Plain *3"* Stay *3"* Thickness { *1/4", 5/16", 3/8"* No. of threads per inch *9*

Pitch of tubes *4 1/4" x 4 1/8"* Working pressure by Rules Manhole compensation: Size of opening in *16" x 12"* Section of compensating ring No. of rivets and diameter of rivet holes

Outer row rivet pitch at ends Depth of flange if manhole flanged *4"* 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 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

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

Rules Are the safety valves fitted with easing gear Working pressure as per tubes forgings and castings and after assembly in place Hydraulic test pressure: valves fitted to free the superheater from water where necessary Are drain cocks or

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

The foregoing is a correct description,
For David Rowan & Co. Ltd.
Arch. N. Grierson Manufacturer.

Dates of Survey { During progress of work in shops - - - while building { During erection on board vessel - - - } Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) Total No. of visits

SEE ACCOMPANYING MACHINERY REPORT.

Is this Boiler a duplicate of a previous case *yes* If so, state Vessel's name and Report No. *FULHAM VII - Gls. Rpt. No 64998*

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
This boiler has been built under Special Survey and in accordance with the rules. The materials and workmanship are good. On completion it has been tested by hydraulic pressure with satisfactory results.

This boiler has been efficiently fitted on board, and the safety valves adjusted to 200 lbs/sq. in.
J. J. Campbell

906
9/3/42

Survey Fee ... £ *See Indus. Report.* When applied for, 10
 Travelling Expenses (if any) £ : *Report.* When received, 10

N. P. Grierson
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **GLASGOW 10 MAR 1942**

Assigned SEE ACCOMPANYING MACHINERY REPORT.

TUE. 21 APR 1942

See Lth 76, 20674



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Certificate (if required) to be sent to
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