

# REPORT ON BOILERS.

Received at London Office JAN 5 1938

Date of writing Report 19 When handed in at Local Office 31/12/1937 Port of NEWCASTLE ON TYNE

No. in Reg. Book. Survey held at Newcastle on Tyne Date, First Survey 13/5/37 Last Survey 29/12/1937

on the s/s "BASSANO" (Number of Visits) Gross Tons 4843 Net Tons 2687

Master Built at Newcastle on Tyne By whom built Swan, Hunter & Wigham Richardson Ltd Yard No. 1560 When built 1937-12.

Engines made at Newcastle on Tyne By whom made ditto. Engine No. 1560 When made 1937

Boilers made at ditto. By whom made ditto. Boiler No. 1560. When made 1937

Nominal Horse Power Owners Ellerman Wilson Line Port belonging to HULL.

## MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Steel Company of Scotland (Letter for Record S.)

Total Heating Surface of Boilers 9870 Square feet Is forced draught fitted Yes Coal or Oil fired Coal

No. and Description of Boilers 4 Single ended multitubular Working Pressure 225 lbs.

Tested by hydraulic pressure to 388 Date of test 15/11/37 No. of Certificate 746, 748, 749, 750 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler 62 sq ft No. and Description of safety valves to each boiler 2-2 1/4 dia Gockburn's Improved High Lift Spring loaded.

Area of each set of valves per boiler per Rule 6.51 sq in as fitted 7.95 Pressure to which they are adjusted 225 lbs Are they fitted with easing gear Yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler NONE

Smallest distance between boilers or uptakes and bunkers or woodwork 2'-0" Is oil fuel carried in the double bottom under boilers No.

Smallest distance between shell of boiler and tank top plating 2'-0" Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 14'-9 3/32 Length 12'-0" Shell plates: Material Steel Tensile strength 29-33 tons

Thickness 1 29/64 Are the shell plates welded or flanged No. Description of riveting: circ. seams end D.R. lap

long. seams T.R. dbl butt straps Diameter of rivet holes in circ. seams } 1 15/32 Pitch of rivets } 4.382" 10"

Percentage of strength of circ. end seams plate 66.48 rivets 42.19 Percentage of strength of circ. intermediate seam plate rivets

Percentage of strength of longitudinal joint plate 85.31 rivets 86.67 combined 87.96 Working pressure of shell by Rules 226 lbs

Thickness of butt straps outer 1 1/8 inner 1 1/4 No. and Description of Furnaces in each Boiler 3 Deighton Corrugated

Material Steel Tensile strength 26-30 tons Smallest outside diameter 44 3/8

Length of plain part top 3 bottom 2'-9" cc. bottom Thickness of plates crown 11/16 bottom 13/16 c.c. bottom Description of longitudinal joint fire welded

Dimensions of stiffening rings on furnace or c.c. bottom none Working pressure of furnace by Rules 227 lbs c.c. bottom 226 lbs

End plates in steam space: Material Steel Tensile strength 26-30 tons Thickness 1 3/8 Pitch of stays 20 1/2 x 18 3/4

How are stays secured Nuts inside & outside Working pressure by Rules 230 lbs

Tube plates: Material front back Steel Tensile strength 26-30 tons Thickness 15/16 7/8

Mean pitch of stay tubes in nests 10 5/8 Pitch across wide water spaces 13 1/2 Working pressure front 237 lbs back 245 lbs

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

at centre 10 5/8 x 1 5/8 Length as per Rule 35 13/32 Distance apart 9 7/8 No. and pitch of stays

in each 3 at 8 1/4 Working pressure by Rules 229 lbs Combustion chamber plates: Material Steel

Tensile strength 26-30 tons Thickness: Sides 13/16 Back 2 3/32 Top 13/16 Bottom 13/16

Pitch of stays to ditto: Sides 8 1/4 x 9 7/8 Back 8 5/8 x 9 7/8 Top 8 1/4 x 9 7/8 Are stays fitted with nuts or riveted over Nuts

Working pressure by Rules 226 lbs Front plate at bottom: Material Steel Tensile strength 26-30 tons

Thickness 15/16 Lower back plate: Material Steel Tensile strength 26-30 tons Thickness 31/32

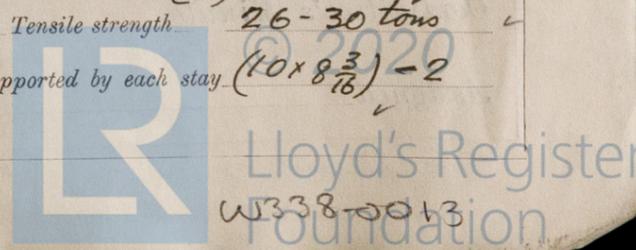
Pitch of stays at wide water space 14 x 8 5/8 Are stays fitted with nuts or riveted over Nuts

Working Pressure 264 lbs Main stays: Material Steel Tensile strength 28-32 tons

Diameter As body of stay, Over threads 3 1/2 x 3 1/4 No. of threads per inch 6 Area supported by each stay (3 1/2) 417-84 sq ins (3 1/4) 360-72 sq ins

Working pressure by Rules 232 lbs & 228 lbs Screw stays: Material Steel Tensile strength 26-30 tons

Diameter As turned off part, Over threads 1 3/4 No. of threads per inch 9 Area supported by each stay (10 x 8 3/16) - 2



Working pressure by Rules 227 lbs Are the stays drilled at the outer ends No Margin stays: Diameter <sup>At turned off part,</sup> 2"  
 No. of threads per inch 9 Area supported by each stay  $(11\frac{7}{8} \times 8\frac{5}{8}) - 2.7 sq\ in$  Working pressure by Rules 247 lbs  
 Tubes: Material IRON External diameter <sup>Plain</sup> 3" Thickness <sup>8 W.G.</sup> 3/8" + 5/16" No. of threads per inch 9  
 Pitch of tubes 4 1/4" x 4 1/4" Working pressure by Rules 255 lbs for 3/8" Manhole compensation: Size of opening in  
 shell plate 20" x 16" Section of compensating ring 1 29/32" x 23 3/4" + flange No. of rivets and diameter of rivet holes 32 of 1 7/8" dia.  
 Outer row rivet pitch at ends 1 1/4" Depth of flange if manhole flanged 2 7/8" Steam Dome: Material  
 Tensile strength Thickness of shell Description of longitudinal joint  
 Diameter of rivet holes Pitch of rivets Percentage of strength of joint <sup>Plate</sup>  
 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 "North Eastern" Smoketube Manufacturers of Jalbot Stead  
Frodingham Steel Co  
 Number of elements 208 Material of tubes S.D. Steel Internal diameter and thickness of tubes 15 1/4", 2.5 1/4"  
 Material of headers Froged Steel Tensile strength 26-30 tons Thickness 7/8" Can the superheater be shut off and  
 the boiler be worked separately Yes Is a safety valve fitted to every part of the superheater which can be shut off from the boiler Yes  
 Area of each safety valve 3.142 sq ins. Are the safety valves fitted with easing gear Yes Working pressure as per  
 Rules 225 lbs. Pressure to which the safety valves are adjusted 225 lbs. Hydraulic test pressure:  
 tubes 1500 lbs. forgings and castings 675 lbs. and after assembly in place 450 lbs. Are drain cocks or  
 valves fitted to free the superheater from water where necessary Yes  
 Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with Yes

FOR SWAN, HURTER, & CO. LTD. THE DIRECTOR, RICHARDSON, LTD. E. J. Sweeney Manufacturer.

Dates of Survey <sup>During progress of work in shops - -</sup> See Mch Report Are the approved plans of boiler and superheater forwarded herewith 3/2/37  
<sup>while building</sup> <sup>During erection on board vessel - - -</sup> Total No. of visits

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. YS CONSUELO.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)  
The Boilers have been constructed under special survey in accordance with the Rules & approved plans, and the materials and workmanship are good. They have been satisfactorily fitted on board and tried under full working conditions.

Survey Fee ... £ See Rpt. 4 When applied for, 19  
 Travelling Expenses (if any) £ : : When received, 19

A Watt  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI 14 JAN 1938  
 Assigned See Nwc. 76. 95792



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