

REPORT ON BOILERS.

No. 17969.

Received at London Office

8 SEP 1939

Date of writing Report 2/9/1939 When handed in at Local Office 5/9/1939 Port of WEST HARTLEPOOL

No. in Survey held at WEST HARTLEPOOL Date, First Survey 27/1/39 Last Survey 11/9/1939

Reg. Book. S.S. ATLANTIC (Number of Visits 98.) Gross 5414.07 Tons Net 3244.9.

Master Built at West Hartlepool By whom built William Gray & Co. Ltd. Yard No. 1094 When built 1939

Engines made at West Hartlepool By whom made Central Marine Eng. Works. Engine No. 1094 When made 1939

Boilers made at West Hartlepool By whom made Central Marine Eng. Works. Boiler No. 1094 When made 1939

Nominal Horse Power 442 Owners Sir Walter Herbert Bocketline Port belonging to Hull.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

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

Total Heating Surface of Boilers 5092 sq ft Is forced draught fitted Yes Coal or Oil fired Coal

No. and Description of Boilers 2 Single ended Working Pressure 200 lbs

Tested by hydraulic pressure to 350 lbs Date of test 16.5.39 No. of Certificate 3902 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler 50.4 sq ft No. and Description of safety valves to each boiler 2 Bourdon's High Lift

Area of each set of valves per boiler {per Rule 7.40" as fitted 9.8" 2022 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

Smallest distance between 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'-6 1/2" Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 15'-3" Length 11'-6" Shell plates: Material Steel Tensile strength 29-33 tons

Thickness 1 1/2" Are the shell plates welded or flanged No Description of riveting: circ. seams {end D.R. LAP. inter. single stroke

long. seams T.R.D. Butt straps Diameter of rivet holes in {circ. seams 1 3/8" Pitch of rivets {plate 4" rivets 9 5/8"

Percentage of strength of circ. end seams {plate 65.625% rivets 43.8% Percentage of strength of circ. intermediate seam {plate rivets

Percentage of strength of longitudinal joint {plate 85.71% rivets 85.31% combined 88.5% Working pressure of shell by Rules 201.7 lbs

Thickness of butt straps {outer 1 1/2" inner 1 5/8" No. and Description of Furnaces in each Boiler 3 Deighton Section (Stephen Goulay ends)

Material Steel Tensile strength 26-30 tons Smallest outside diameter 44 3/4"

Length of plain part {top Thickness of plates {crown 5/8" bottom Description of longitudinal joint Welded

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 203.8 lbs

End plates in steam space: Material Steel Tensile strength 26-30 tons Thickness 1 1/2" Pitch of stays 21 x 19 3/4"

How are stays secured Double nuts Working pressure by Rules 204 lbs

Tube plates: Material {front Steel Tensile strength 26-30 tons Thickness {15/16" front 229.5 lbs back 233.3 lbs

Mean pitch of stay tubes in nests 10 1/2" Pitch across wide water spaces 14" Working pressure {front 229.5 lbs back 233.3 lbs

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

at centre 9 3/4" (2 @ 7/8") Length as per Rule 33.44" Distance apart 10 1/2" No. and pitch of stays

in each 3 @ 8 3/4" Working pressure by Rules 201.4 lbs Combustion chamber plates: Material Steel

Tensile strength 26-30 tons Thickness: Sides 23/32" Back 23/32" Top 23/32" Bottom 13/16"

Pitch of stays to ditto: Sides 8 3/4" x 9 3/4" Back 9 1/2" x 9 1/2" Top 8 3/4" x 10 1/2" Are stays fitted with nuts or riveted over No

Working pressure by Rules 201.5, 201.1, 203.5 lbs Front plate at bottom: Material Steel Tensile strength 26-30 tons Thickness 29/32"

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

Pitch of stays at wide water space 15 1/4" x 9 1/2" Are stays fitted with nuts or riveted over No

Working Pressure 208.5 lbs Main stays: Material Steel Tensile strength 28-32 tons

Diameter {At body of stay, 3 3/16" No. of threads per inch 6 Area supported by each stay 424.6 sq in

Working pressure by Rules 206 lbs Screw stays: Material Steel Tensile strength 26-30 tons

Diameter {At turned off part, 1 3/4" No. of threads per inch 9 Area supported by each stay 90.25 sq in

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Working pressure by Rules 201 lbs. Are the stays drilled at the outer ends ☒ No. Margin stays: Diameter { At turned off part, or Over threads 2" ✓

No. of threads per inch 9 Area supported by each stay 117.5 sq. in. Working pressure by Rules 210.3 lbs.

Tubes: Material LW Wrought Iron External diameter { Plain 3" Thickness { 3/16", 1/4", 5/16" No. of threads per inch 9

Pitch of tubes 4 1/2 x 4 1/8 (Plain) Working pressure by Rules 250 lbs. Manhole compensation: Size of opening in

END shell plate 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 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 Smoke tube

Manufacturers of

Tubes Messrs Stewart & Lloyd's Glasgow.
Steel forgings Messrs Colvilles.
Steel castings Messrs Stoddinson

Number of elements 59 per boiler Material of tubes SD steel (Cold finished) Internal diameter and thickness of tubes 17" / 1/2" dia 2 1/2" / 1/2" thick.

Material of headers Forged steel Tensile strength 26-30 tons Thickness 1 1/2" 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 1.76 sq. ft. @ 1 1/2" dia High lift Are the safety valves fitted with easing gear Yes Working pressure as per Rules as approved 200 lbs. Pressure to which the safety valves are adjusted 210 lbs. Hydraulic test pressure:

tubes 1200 lbs. forgings and castings 600 lbs. and after assembly in place 1000 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

The following is a description of the boiler and superheater:

(W. & Co. Ltd.)

Manufacturer.

GENERAL MANAGER.

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 3

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

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These boilers have been constructed under Special Survey and in accordance with the approved plans for a working pressure of 200 lbs.

The materials and workmanship have been found good.

Upon completion the boilers were tested in the presence of the undersigned by a hydraulic pressure of 350 lbs per square inch, showed no signs of weakness and were found sound and tight in every respect at that pressure.

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

Arthur W. Oxford.

Engineer Surveyor to Lloyd's Register of Shipping.

15 SEP 1939

Committee's Minute

Assigned

See Hpl. JE 17969



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