

REPORT ON BOILERS.

No. 56110.

26 JUN 1948

Received at London Office

Date of writing Report 25 June 1948 When handed in at Local Office 25 June 1948 Port of CARDIFF

No. in Surrey held at CARDIFF Date, First Survey 13. 4. 48 Last Survey 21. 6. 1948

23185 on the S.S. "EMPIRE CONSENT" (Number of Visits 4) Tons { Gross 1942 Net 964

Master NYC. VAN DER GIESSEN & Co Built at KRIMPEN a/d YSEL By whom built ZONEN'S SCHIPS Yard No. When built 1944

Engines made at AMSTERDAM By whom made VERCHURE & Co's SCHIPSW & MCFBK Engine No. When made 1944

Boilers made at AMSTERDAM By whom made VERCHURE & Co's SCHIPSW & MCFBK Boiler No. When made 1944

Nominal Horse Power 276 Owners MINISTRY OF TRANSPORT Port belonging to LONDON

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel (Letter for Record S)

Total Heating Surface of Boilers 490M² (170x2 + 75x2 (SUPHT)) Is forced draught fitted YES Coal or Oil fired COAL

No. and Description of Boilers 2-CYLINDRICAL MULTITUBULAR "CADUS" TYPE Working Pressure 216 lbs/sq

Tested by hydraulic pressure to 26.5 k/DC Date of test 6. 4. 44 No. of Certificate Can each boiler be worked separately YES

Area of Firegrate in each Boiler 4.3 M² No. and Description of safety valves to each boiler 2- SPRING LOADED HIGH LIFT.

Area of each set of valves per boiler { per Rule 3200 mm. as fitted 8788 mm. (+506.6 mm SUPHT) Pressure to which they are adjusted 216 lbs/sq Are they fitted with easing gear YES

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

Smallest distance between boilers and bunkers 177 mm. Is oil fuel carried in the double bottom under boilers NO

Smallest distance between shell of boiler and tank top plating 508 mm. Is the bottom of the boiler insulated YES

Largest internal dia. of boilers 3900 mm. Length 2300 mm. Shell plates: Material S.M. STEEL Tensile strength

Thickness 31 mm. Are the shell plates welded or flanged NO Description of riveting: circ. seams { end DOUBLE RIVETED inter.

Long. seams TREBLE RIVETED Diameter of rivet holes in { circ. seams 35 mm. long. seams 35 mm. Pitch of rivets { 110 mm. 210 mm.

Percentage of strength of circ. end seams { plate 69% rivets Percentage of strength of circ. intermediate seam { plate rivets

Percentage of strength of longitudinal joint { plate 83.8% rivets combined Working pressure of shell by Rules

Thickness of butt straps { outer 31 mm. inner 31 mm. No. and Description of Furnaces in each Boiler 3-CORRUGATED TYPE (FURNACE ENDS TO BACK TUBE PLATE)

Material STEEL Tensile strength Smallest outside diameter 930 mm.

Length of plain part { top bottom Thickness of plates { crown 15 mm. bottom 15 mm. Description of longitudinal joint FIREWELDED

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

End plates in steam space: Material S.M. STEEL Tensile strength Thickness 27 mm. Pitch of stays 405 x 460 mm.

How are stays secured SCREWED THROUGH PLATES NUTS & WASHERS OUTSIDE Working pressure by Rules

Tube plates: Material { front S.M. STEEL back S.M. STEEL Tensile strength { Thickness { 27 mm. 27 mm.

Mean pitch of stay tubes in nests 208 mm x 208 mm. Pitch across wide water spaces 360 mm. Working pressure { front back

Girders to combustion chamber tops: Material Tensile strength Depth and thickness of girder

at centre Length as per Rule Distance apart No. and pitch of stays

Working pressure by Rules Combustion chamber plates: Material

Tensile strength Thickness: Sides Back Top Bottom

Pitch of stays to ditto: Sides Back Top Are stays fitted with nuts or riveted over

Working pressure by Rules Front plate at bottom: Material S.M. STEEL Tensile strength

Thickness 27 mm. Lower back plate: Material S.M. STEEL Tensile strength Thickness 27 mm.

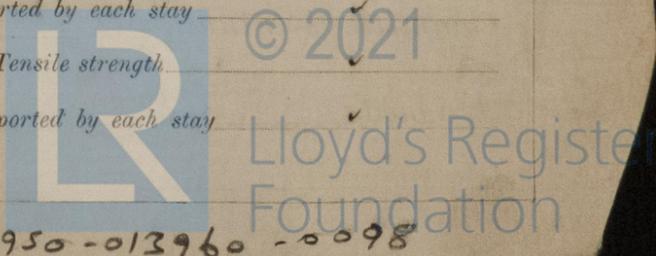
Pitch of stays at wide water space Are stays fitted with nuts or riveted over

Working Pressure Main stays: Material STEEL Tensile strength

Diameter { At body of stay 4 @ 75 mm / 6 @ 85 mm / 2 @ 75 mm No. of threads per inch 6 Area supported by each stay

Working pressure by Rules Screw stays: Material Tensile strength

Diameter { At turned off part No. of threads per inch Area supported by each stay



Working pressure by Rules Are the stays drilled at the outer ends Margin stays: Diameter At turned off part, or Over threads

No. of threads per inch 777777 Area supported by each stay Working pressure by Rules

Tubes: Material STEEL External diameter Plain 76 mm Stay 76 mm Thickness 4 mm 8 mm No. of threads per inch 9

Pitch of tubes 104 mm Working pressure by Rules Manhole compensation: Size of opening in shell plate 320 mm x 420 mm Section of compensating ring 2 @ 190 mm x 31 mm No. of rivets and diameter of rivet holes 24 @ 35 mm DIAM.

Outer row rivet pitch at ends 152 mm Depth of flange of manhole flanged NOT FLANGED Steam Dome: Material STEEL

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 770 mm Working pressure by Rules Thickness of crown 18 mm No. and diameter of stays Inner radius of crown 640 mm Working pressure by Rules

How connected to shell DOUBLE RIVETED Size of doubling plate under dome NONE Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell 29 mm @ 108 mm

Type of Superheater RETURN TUBE Manufacturers of Tubes Steel castings

Number of elements 46 PER BOILER Material of tubes STEEL Internal diameter and thickness of tubes 17 mm @ 2.5 mm

Material of headers STEEL CASTING Tensile strength Thickness 24 mm Can the superheater be shut off and the boiler be worked separately NO Is a safety valve fitted to ~~any part of the superheater which can be shut off from the boiler~~ YES

Area of each safety valve 506.6 sq mm Are the safety valves fitted with easing gear YES Working pressure as per Rules Pressure to which the safety valves are adjusted 216 lbs/sq in 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 TO G.L. REQUIREMENTS.

The foregoing is a correct description,

Manufacturer:

Dates of Survey During progress of work in shops - Are the approved plans of boiler and superheater forwarded herewith YES (If not state date of approval.)

while building During erection on board vessel - Total No. of visits

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

ADDITIONAL PARTICULARS:-

WATER DRUMS - NR IN EACH BOILER: 6. INSIDE DIAM: 460 M.M. THICKNESS OF PLATES: 20 M.M. DRUM SHELL PLATES: WELDED
DIAM OF TUBE HOLES IN DRUM: 51 M.M. PITCH OF TUBES: 102 M.M.

DRUM ENDS - THICKNESS OF PLATE: 20 M.M. RADIOS OR HOW STAYED: FLANGED MANHOLE. SIZE OF MANHOLE: 200 M.M. x 300 M.M.
TUBES - DIAM 50 M.M. THICKNESS 5 M.M. NUMBER 198.

FURNACE READINGS:- PORT BOILER STARB BOILER

MAXIMUM DEFLECTION:- PORT FURNACE, CENTRE FURNACE, STARB FURNACE PORT FURNACE, CENTRE FURNACE, STARB FURNACE

5/8" 3/8" 3/8" 1/4" 1/4" 1/4"

THESE BOILERS HAVE BEEN BUILT UNDER SURVEY AND TO CLASS OF GERMANISCHER LLOYD. THE BOILERS HAVE BEEN SPECIALLY EXAMINED AND WORKMANSHIP AND MATERIAL APPEAR TO BE GOOD AND ARRANGEMENTS AND FITTINGS IN ACCORDANCE WITH RULE REQUIREMENTS. THE BOILERS ARE ELIGIBLE IN MY OPINION TO BE CLASSED WITH RECORD OF B/S 6/48

Survey Fee Entered on Rept. 9 : When applied for, 192
70 56 144
Travelling Expenses (if any) £ : : When received, 192

Thomas Donaldson
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 23 JUL 1948

Assigned

See minute on Rept. 9.



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