

REPORT ON BOILERS.

No. 96017

Received at London Office MAR 10 1938

Date of writing Report 19 When handed in at Local Office 8/3/38 Port of NEWCASTLE-ON-TYNE

No. in Reg. Book. Survey held at Wallsend Date, First Survey 30th July 1937 Last Survey 1st March 1938

on the SS "Welsh Trader" (Number of Visits) Tons { Gross Net

Master Built at Sunderland By whom built J. L. Thompson & Sons Yard No. 584 When built 1938

Engines made at Wallsend By whom made North Eastern Marine Eng. Co. Ltd. Engine No. 2890 When made 1938

Boilers made at Wallsend By whom made North Eastern Marine Eng. Co. Ltd. Boiler No. 1890 When made 1938

Nominal Horse Power 373 Owners Traders Navigation Co. Ltd. Port belonging to London

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Steel Company of Scotland (Letter for Record 3)

Total Heating Surface of Boilers 1489 sq ft Is forced draught fitted No Coal or Oil fired Coal

No. and Description of Boilers One single ended multitubular Working Pressure 220 lbs

Tested by hydraulic pressure to 380 lbs Date of test 11-11-37 No. of Certificate 744 Can each boiler be worked separately

Area of Firegrate in each Boiler 38.5 sq ft No. and Description of safety valves to each boiler Two spring loaded

Area of each set of valves per boiler { per Rule 7.9 sq ft as fitted 9.8 sq ft 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

Smallest distance between boilers or uptakes and bunkers or woodwork 10'-3" Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating 24" Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 12'-6 9/16" Length 11'-0" Shell plates: Material Steel Tensile strength 29-33 tons

Thickness 1 7/32" Are the shell plates welded or flanged No Description of riveting: circ. seams { end L.D.R. inter. 3% } long. seams { 8 3/4" }

long. seams T.R. 50 lb Straps Diameter of rivet holes in { circ. seams 1 1/4" long. seams 1 1/4" Pitch of rivets { 8 3/4" }

Percentage of strength of circ. end seams { plate 65.5 rivets 44.1 } Percentage of strength of circ. intermediate seam { plate — rivets — }

Percentage of strength of longitudinal joint { plate 85.7 rivets 85.5 combined 88.5 } Working pressure of shell by Rules 222 lbs

Thickness of butt straps { outer 15/16" inner 1 1/16" } No. and Description of Furnaces in each Boiler Two Deighton

Material Steel Tensile strength 26-30 tons Smallest outside diameter 44 5/8"

Length of plain part { top — bottom — } Thickness of plates { crown 11/16" pottom 11/16" } Description of longitudinal joint Weld

Dimensions of stiffening rings on furnace or c.c. bottom None Working pressure of furnace by Rules 225 lbs

End plates in steam space: Material Steel Tensile strength 26-30 tons Thickness 1 15/32" Pitch of stays 25" x 16 3/4"

How are stays secured Double nuts Working pressure by Rules 224 lbs

Tube plates: Material { front Steel back Steel } Tensile strength { 26-30 lbs } Thickness { 31/32" 25/32" }

Mean pitch of stay tubes in nests 11 3/4" x 8 8/15" Pitch across wide water spaces 14 1/2" Working pressure { front 225 lbs back 245 lbs }

Girders to combustion chamber tops: Material Steel Tensile strength 29-33 tons Depth and thickness of girder

at centre 9" x 2 @ 7/8" Length as per Rule 34" Distance apart 9 1/2" No. and pitch of stays

in each 2 @ 10 3/16" Working pressure by Rules 221 lbs Combustion chamber plates: Material Steel

Tensile strength 26-30 tons Thickness: Sides 25/32" Back 25/32" Top 25/32" Bottom 25/32"

Pitch of stays to ditto: Sides 10 3/16" x 9 1/2" Back 10 3/16" x 9 1/2" Top 10 3/16" x 9 1/2" Are stays fitted with nuts or riveted over Nuts

Working pressure by Rules 222 lbs Front plate at bottom: Material Steel Tensile strength 26-30 tons

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

Pitch of stays at wide water space 15" x 9 1/2" Are stays fitted with nuts or riveted over Nuts

Working Pressure 229 lbs Main stays: Material Steel Tensile strength 28-32 tons

Diameter { At body of stay, 3/4" or Over threads — } No. of threads per inch 6 Area supported by each stay 416.7 sq in

Working pressure by Rules 222 lbs Screw stays: Material Steel Tensile strength 26-30 tons

Diameter { At turned off part, 1 7/8" or Over threads — } No. of threads per inch 9 Area supported by each stay 96.78 sq in

Working pressure by Rules 220 lbs Are the stays drilled at the outer ends no ✓ Margin stays: Diameter { At turned off part, 2 1/8" ✓
 No. of threads per inch 9 ✓ Area supported by each stay 119.64 □" ✓ Working pressure by Rules 238 lbs ✓
 Tubes: Material S.S. Steel ✓ External diameter { Plain 3 1/4" ✓ Thickness { 3/8" + 1/4" ✓ No. of threads per inch 9 ✓
 Pitch of tubes 9" x 8 3/4" ✓ Working pressure by Rules 267 lbs ✓ Manhole compensation: Size of opening in
 END 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 3/8" ✓ Steam Dome: Material —
 Tensile strength — Thickness of shell — Description of longitudinal joint —
 Diameter of rivet holes — Pitch of rivets — Percentage of strength of joint { Plate —
 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 none 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 — 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 — forgings and 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 22 inclusive for boilers been complied with Yes ✓

The foregoing is a correct description,
 THE NORTH EASTERN MARINE ENGINEERING CO., LTD.
John Neill Manufacturer.

Dates of Survey { During progress of work in shops - - }
 while building { During erection on board vessel - - } See Machinery Report

Are the approved plans of boiler and superheater forwarded herewith Yes
 (If not state date of approval.)
 Total No. of visits

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.) This boiler has been constructed under Special Survey in accordance with the Rules and approved plan, the materials and workmanship are good. On completion it was tested by hydraulic pressure to 380 lbs per square inch and found tight and satisfactory. It has been fitted on board in an efficient manner, tried under steam and found satisfactory.

Survey Fee ... Charged on
 Travelling Expenses (if any) £ Machinery Rpt. }
 When applied for, 10
 When received, 10

J. Seller
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI 18 MAR 1938

Assigned See Sla 96017