

REPORT ON BOILERS.

JUN 10 1937

Received at London Office

When handed in at Local Office 9/6/37 Port of NEWCASTLE-ON-TYNE

Survey held at Wallsend Date, First Survey 18 April Last Survey 31 May 1937
 on the Replace boilers for S.S. "Thode Fagelund" (Number of Visits 12.) Tons { Gross 5454 Net 3604
 Built at Sunderland By whom built Sir James Laing & Sons Ltd Yard No. When built 1920
 made at Newcastle By whom made Palmer's Co. Ltd. Engine No. When made 1920
 made at Wallsend By whom made North Eastern Marine Eng Co. Ltd Boiler No. 2891 When made 1937
 Horse Power Owners Wilk Wilhelmssen Port belonging to Tonsberg

TITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Steel Company of Scotland (Letter for Record S)
 Heating Surface of Boilers 7668 sq ft Is forced draught fitted yes Coal or Oil fired Oil fired
 Description of Boilers Three single ended multitubular Working Pressure 185 lbs
 by hydraulic pressure to 328 lbs Date of test 31-5-37 No. of Certificate 718 Can each boiler be worked separately yes
 of Firegrate in each Boiler 63.3 sq ft No. and Description of safety valves to each boiler See Nwe Rpt - No 43501
 of each set of valves per boiler { per Rule See Nwe Rpt - No 43501 Pressure to which they are adjusted 185 lbs are they fitted with easing gear yes
 of donkey boilers, state whether steam from main boilers can enter the donkey boiler See S.S. Rpt No 279164
 at distance between boilers or uptakes and bunkers or woodwork See S.S. Rpt No 279164 Is oil fuel carried in the double bottom under boilers yes
 at distance between shell of boiler and tank top plating 22" Is the bottom of the boiler insulated yes
 at internal dia. of boilers 15'-6" Length 11'-6" Shell plates: Material Steel Tensile strength 29-33 tons
 thickness 1 7/8" Are the shell plates welded or flanged No Description of riveting: circ. seams { end L.D.R. inter. —
 seams Straps T.R. Diameter of rivet holes in { circ. seams 1 5/16" Pitch of rivets { 3 3/4"
 { long. seams 1 5/16" { 9 1/8"
 stage of strength of circ. end seams { plate 65 Percentage of strength of circ. intermediate seam { plate —
 { rivets 45.2 { rivets —
 stage of strength of longitudinal joint { plate 85.6 Working pressure of shell by Rules 186.8
 { rivets 87.0
 { combined 88.6
 thickness of butt straps { outer 1" No. and Description of Furnaces in each Boiler Three Dighton
 { inner 1 1/8" Tensile strength 26-30 tons Smallest outside diameter 47 1/2"
 Material Steel Thickness of plates { crown 5/8" Description of longitudinal joint weld
 { bottom — { bottom —
 positions of stiffening rings on furnace or c.c. bottom — Working pressure of furnace by Rules 192 lbs
 plates in steam space: Material Steel Tensile strength 26-30 tons Thickness 1 1/32" Pitch of stays 21 3/4" x 21"
 are stays secured Double nuts Working pressure by Rules 185 lbs
 plates: Material { front Steel Tensile strength { 26-30 tons Thickness { 29/32"
 { back Steel { 26-30 tons { 29/32"
 pitch of stay tubes in nests 9.87" Pitch across wide water spaces 14 1/2" Working pressure { front 208 lbs
 { back 218 lbs
 plates to combustion chamber tops: Material Steel Tensile strength 29-33 tons Depth and thickness of girder
 are 10" x 2 @ 3/4" Length as per Rule 36" Distance apart 9" No. and pitch of stays
 are 2 @ 10 7/8" Working pressure by Rules 225 lbs Combustion chamber plates: Material Steel
 tensile strength 26-30 tons Thickness: Sides 3/4" Back 29/32" Top 3/4" Bottom 3/4"
 of stays to ditto: Sides 10 7/8" x 9" Back 9 7/8" x 9 7/16" Top 10 7/8" x 9" Are stays fitted with nuts or riveted over nuts
 working pressure by Rules 194 lbs Front plate at bottom: Material Steel Tensile strength 26-30 tons
 thickness 29/32" Lower back plate: Material Steel Tensile strength 26-30 tons Thickness 7/8"
 of stays at wide water space 14 1/2" Are stays fitted with nuts or riveted over nuts
 working Pressure 210 lbs Main stays: Material Steel Tensile strength 28-32 tons
 diameter { At body of stay, 3 1/4" No. of threads per inch 6 Area supported by each stay 456.7 sq in
 { Over threads —
 working pressure by Rules 203 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 97.875 sq in
 { Over threads —

Working pressure by Rules 185 lbs Are the stays drilled at the outer ends no Margin stays: Diameter $\left\{ \begin{array}{l} \text{At turned off part, } \underline{1\frac{1}{8}} \\ \text{or} \\ \text{Over threads } \underline{1\frac{1}{8}} \end{array} \right.$

No. of threads per inch 9 Area supported by each stay 115 Working pressure by Rules 185.4 lbs

Tubes: Material Iron External diameter $\left\{ \begin{array}{l} \text{Plain } \underline{2\frac{3}{4}} \\ \text{Stay } \underline{2\frac{3}{4}} \end{array} \right.$ Thickness $\left\{ \begin{array}{l} \underline{99} \\ \underline{5/16 + 1/4} \end{array} \right.$ No. of threads per inch 9

Pitch of tubes 11 1/4" x 7 3/4" Working pressure by Rules 193 lbs Manhole compensation: Size of 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 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 $\left\{ \begin{array}{l} \text{Plate } \underline{\quad} \\ \text{Rivets } \underline{\quad} \end{array} \right.$

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 of rivets in outer row in dome connection to shell

Type of Superheater Manufacturers of $\left\{ \begin{array}{l} \text{Tubes } \underline{\quad} \\ \text{Steel castings } \underline{\quad} \end{array} \right.$

Number of elements Material of tubes Internal diameter and thickness of tubes

Material of headers Tensile strength Thickness Can the superheater be shut 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 Rules Pressure to which the safety valves are adjusted Hydraulic test tubes , castings and after assembly in place Are drain cocks or valves to free the superheater from water where necessary

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

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

Dates of Survey while building $\left\{ \begin{array}{l} \text{During progress of work in shops - - } \underline{1937} \\ \text{During erection on board vessel - - - } \underline{14.25.31.} \end{array} \right.$ Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)

Apr 1. 8. 13. 14. 19. 23. 26. May 4. 10.
July 23. 26. 24. 28. Aug 5. 13. 16. 20. Total No. of visits 12. 8 visits on board

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 built Special Survey, in accordance with the Rules and approved plan: the materials and workmanship are good. On completion they were tested by water pressure to 328 psi square inch and found tight and satisfactory at that pressure. These boilers have been securely fitted on board, in accordance with the Rules. The original safety valves have been fitted, & adjusted under steam to 185 lbs, & found satisfactory.

Thickness of adjusting washers.

Port	Centre	Starboard
Port $\frac{13}{32}$ "	Port $\frac{7}{16}$ "	Port $\frac{1}{2}$ "
Starboard $\frac{15}{32}$ "	Starboard $\frac{7}{16}$ "	Starboard $\frac{15}{32}$ "

Survey Fee £ 44 : 9 : 0 When applied for, 9 JUN 1937

Travelling Expenses (if any) £ : : When received, 16. 6. 37

J. Selles + R. J. Easton
 Engineer Surveyors to Lloyd's Register of Shipping

Committee's Minute TUE 28 SEP 1937

Assigned See No 95396

