

REPORT ON BOILERS.

No. 32546

Received at London Office DEC 23 1938

Date of writing Report

192

When handed in at Local Office

21 DEC 1938

Port of

SUNDERLAND.

No. in Reg. Book. Survey held at

Sunderland

Date, First Survey

Last Survey Dec 12 1938

on the

8/3 FULHAM IV

(Number of Visits

Tons } Gross
Act

Master Built at Burntisland By whom built Burntisland S.B. Co. Ltd. No. 225 When built 1938

Engines made at Sunderland By whom made H.E. Marine Eng. Co. (1938) Ltd. Engine No. 2928 When made 1938

Boilers made at do. By whom made do. Boiler No. do. When made do.

Nominal Horse Power 196 Owners Port belonging to

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel The Steel Company of Scotland (Letter for Record T)

Total Heating Surface of Boilers 2952 sq ft Is forced draught fitted yes Coal or Oil fired coal

No. and Description of Boilers one cylindrical multitubular Working Pressure 200 lb.

Tested by hydraulic pressure to 350 lb Date of test 27/9/38 No. of Certificate 4284 Can each boiler be worked separately

Area of Firegrate in each Boiler 65 sq ft No. and Description of safety valves to each boiler 2. Direct Spring

Area of each set of valves per boiler per Rule 17.44 sq in as fitted 19.24 sq in Pressure to which they are adjusted 200 lb. 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 2'-0" Is oil fuel carried in the double bottom under boilers no

Smallest distance between shell of boiler and tank top plating 1'-6" Is the bottom of the boiler insulated yes

Largest internal dia. of boilers 16'-6 1/8" Length 11'-0" Shell plates: Material steel Tensile strength 29/32 tons/sq in

Thickness 1 7/16" Are the shell plates welded or flanged Description of riveting: circ. seams end D.R.L. inter.

Long. seams T.R.D.B.S Diameter of rivet holes in circ. seams 1 5/32" Pitch of rivets 4 3/8" 10 1/8"

Percentage of strength of circ. end seams plate 66.4 rivets 42.77 Percentage of strength of circ. intermediate seam plate rivets

Percentage of strength of longitudinal joint plate 85.49 rivets 86.53 combined 88.29 Working pressure of shell by Rules 200.2 lb.

Thickness of butt straps outer 1 3/32" inner 1 7/32" No. and Description of Furnaces in each Boiler 3. Slighten. Slipon. junction necks

Material steel Tensile strength 26/30 tons/sq in Smallest outside diameter 3'-11 9/16"

Length of plain part top bottom Thickness of plates crown 2 2/32" Description of longitudinal joint weld

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 201.8 lb.

End plates in steam space: Material steel Tensile strength 26/30 tons/sq in Thickness 1 5/32" Pitch of stays 2 3/4" x 2 1/2"

How are stays secured double nuts Working pressure by Rules 202 lb.

Tube plates: Material front back steel Tensile strength 26/30 tons/sq in Thickness 29/32" 13/16"

Mean pitch of stay tubes in nests 10.32" Pitch across wide water spaces 14" x 8 1/2" Working pressure front 218 lb. back 223 lb.

Girders to combustion chamber tops: Material steel Tensile strength 28/32 tons/sq in Depth and thickness of girder

at centre 10, 1 7/8" Length as per Rule 34.4" Distance apart 12" No. and pitch of stays

in each 3, 8 1/4" Working pressure by Rules 205 lb. Combustion chamber plates: Material steel

Tensile strength 26/30 tons/sq in Thickness: Sides 13/16" Back 25/32" Top 13/16" Bottom 1"

Pitch of stays to ditto: Sides 10 7/8" x 10 1/2" Back 10 3/4" x 9 3/4" Top 12" x 8 1/4" Are stays fitted with nuts or riveted over nuts fitted

Working pressure by Rules 204 lb. Front plate at bottom: Material steel Tensile strength 26/30 tons/sq in

Thickness 29/32" Lower back plate: Material steel Tensile strength 26/30 tons/sq in Thickness 29/32"

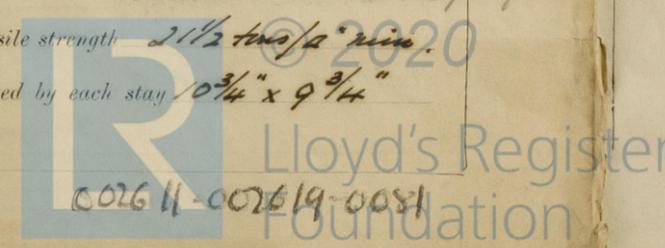
Pitch of stays at wide water space 14 3/4" x 9 3/4" Are stays fitted with nuts or riveted over nuts fitted

Working Pressure 230 lb. Main stays: Material steel Tensile strength 28/32 tons/sq in

Diameter At body of stay, or Over threads 3 3/8" 3 3/4" No. of threads per inch 6 Area supported by each stay 23 1/4" x 21 1/2" 31/12/38

Working pressure by Rules 200 lb. Screw stays: Material Tapped N.I. Tensile strength 21 1/2 tons/sq in

Diameter At turned off part, or Over threads 1 7/8" No. of threads per inch 9 Area supported by each stay 10 3/4" x 9 3/4"



Working pressure by Rules 201 1/2 Are the stays drilled at the outer ends NO Margin stays: Diameter ^(At turned off part.) 2" or ^{Over threads} 2" ✓
 No. of threads per inch 9 ✓ Area supported by each stay 12 3/4" x 9 3/4" Working pressure by Rules 200 1/2
 Tubes: Material W.I. ✓ External diameter ^{Plain} 3" ✓ ^{Stay} 3" ✓ Thickness 8 H.G. ^{1/16", 3/16", 1/8", 5/16", 3/8", 1/2"} No. of threads per inch 9 ✓
 Pitch of tubes 4 1/4" x 4 1/4" ✓ Working pressure by Rules 202 1/2 Manhole compensation: Size of opening in END 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 1/4" ✓ Steam Dome: Material _____
 Tensile strength _____ Thickness of shell _____ Description of longitudinal joint _____
 Diameter of rivet holes _____ Pitch of rivets _____ Percentage of strength of joint ^{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 _____ Manufacturers of ^{Tubes} _____ ^{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 _____ 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 NORTH EASTERN MARINE ENGINEERING CO. (1938) LTD.
 The foregoing is a correct description,
J. L. Suibel RESIDENT MANAGER.

Dates of Survey ^{During progress of work in shops - -} Please see Rpt. H. Are the approved plans of boiler and superheater forwarded herewith (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.)
 This boiler has been constructed under special survey in accordance with the approved plans, secretary's letters and the requirements of the Rules. Workmanship and material are good. For recommendations please see Rpt. A.

Survey Fee £ charged on Rpt. H. When applied for, 192
 Travelling Expenses (if any) £ 192 When received, 192

J. R. Howe

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI 27 JAN 1939
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