

REPORT ON BOILERS.

Received at London Office 21 MAY 1942

Date of writing Report 1942 When handed in at Local Office 18 May 1942 Port of **BUNDERLAND.**

No. in Reg. Book. **09.** Survey held at **BUNDERLAND.** Date, First Survey Last Survey 14 May 1942

on the **8 1/2' ELMWOOD** (Number of Visits) Gross 7167 Tons Net 4247

Master Built at **Sunderland** By whom built **J. L. Thompson & Sons Ltd No. 616** When built **1942**

Engines made of **Sunderland** By whom made **H. E. Kravine Eng. Co. (1938) Ltd Engine No 4014** When made **1942**

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

Nominal Horse Power **506** Owners **John S. Jacobs & Co. Ltd** Port belonging to **London**

MULTITUBULAR BOILERS ~~MAIN~~, AUXILIARY, ~~OR~~ ~~DONKEY~~.

Manufacturers of Steel **Appledy Fiddingsham Steel Co.** (Letter for Record **5** ✓)

Total Heating Surface of Boilers **1682 sq ft** Is forced draught fitted **yes** ✓ Coal or Oil fired **coal** ✓

No. and Description of Boilers **1. Single Ended Cylindrical** ✓ Working Pressure **220 lbs.** ✓

Tested by hydraulic pressure to **380 lbs.** Date of test **26/2/42** No. of Certificate **4410** Can each boiler be worked separately **yes** ✓

Area of Firegrate in each Boiler **44 sq ft** No. and Description of safety valves to each boiler **2 Direct Spring** ✓

Area of each set of valves per boiler (per Rule **9.12" x 8.94"** as fitted **9.80"**) Pressure to which they are adjusted **220 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 **—** Is oil fuel carried in the double bottom under boilers **no** ✓

Smallest distance between shell of boiler and tank top plating **2'-2 1/2"** Is the bottom of the boiler insulated **yes** ✓

Largest internal dia. of boilers **12'-9 1/2"** Length **11'-6"** Shell plates: Material **Steel** ✓ Tensile strength **29/33** ✓

Thickness **1 5/64"** Are the shell plates welded or flanged **—** Description of riveting: circ. seams (end **D.T.R.L.** inter. **—**)

long. seams **T.R.D.B.S.** Diameter of rivet holes in (circ. seams **1 9/32"** long. seams **9"**) Pitch of rivets **9"** ✓

Percentage of strength of circ. end seams (plate **65.8** rivets **43.8**) Percentage of strength of circ. intermediate seam (plate **—** rivets **—**)

Percentage of strength of longitudinal joint (plate **85.76** rivets **86.36** combined **88.79**) Working pressure of shell by Rules **220.9 lbs.**

Thickness of butt straps (outer **15/16"** inner **1 1/16"**) No. and Description of Furnaces in each Boiler **3 Slighten - Stephen-furley nests.**

Material **Steel** ✓ Tensile strength **26/30** ✓ Smallest outside diameter **2'-11 1/32"** ✓

Length of plain part (top **—** bottom **—**) Thickness of plates (crown **35/64"** bottom **—**) Description of longitudinal joint **weld** ✓

Dimensions of stiffening rings on furnace or c.c. bottom **—** Working pressure of furnace by Rules **224 lbs.**

End plates in steam space: Material **Steel** ✓ Tensile strength **26/30** ✓ Thickness **1 5/32"** Pitch of stays **16 1/2" x 16 1/4"** ✓

How are stays secured **double nuts** ✓ Working pressure by Rules **231 lbs.**

Tube plates: Material (front **Steel** back **Steel**) ✓ Tensile strength **26/30** ✓ Thickness (front **7/8"** back **13/16"**)

Mean pitch of stay tubes in nests **10 1/4"** ✓ Pitch across wide water spaces **14" x 7 3/4"** Working pressure (front **250 lbs.** back **225 lbs.**)

Girders to combustion chamber tops: Material **Steel** ✓ Tensile strength **29/33** ✓ Depth and thickness of girder at centre **9 1/8" x 2"** ✓ Length as per Rule **31 1/2"** ✓ Distance apart **11 3/16"** ✓ No. and pitch of stays in each **3 @ 7 1/2"** ✓ Working pressure by Rules **226 lbs.** ✓

Combustion chamber plates: Material **Steel** ✓ Tensile strength **26/30** ✓ Thickness: Sides **25/32"** ✓ Back **25/32"** ✓ Top **25/32"** ✓ Bottom **25/32"** ✓

Pitch of stays to ditto: Sides **9 7/8" x 9 3/16"** ✓ Back **10 1/2" x 9 1/4"** ✓ Top **11 3/16" x 7 1/2"** ✓ Are stays fitted with nuts or riveted over **nuts fitted** ✓

Working pressure by Rules **220 lbs.** ✓ Front plate at bottom: Material **Steel** ✓ Tensile strength **26/30** ✓

Thickness **7/8"** ✓ Lower back plate: Material **Steel** ✓ Tensile strength **26/30** ✓ Thickness **15/16"** ✓

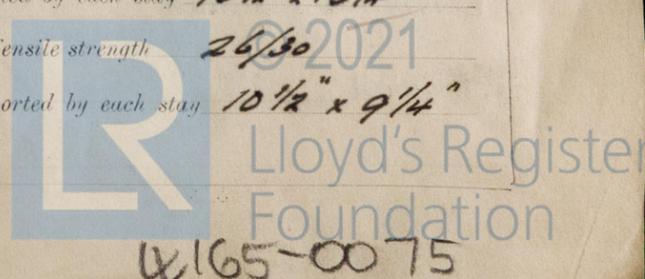
Pitch of stays at wide water space **15 1/4" x 9 1/4"** ✓ Are stays fitted with nuts or riveted over **nuts fitted** ✓

Working Pressure **225 lbs.** ✓ Main stays: Material **Steel** ✓ Tensile strength **28/32** ✓

Diameter (At body of stay, or Over threads) **2 5/8"** ✓ No. of threads per inch **6** ✓ Area supported by each stay **16 1/2" x 16 1/4"** ✓

Working pressure by Rules **221 lbs.** ✓ Screw stays: Material **Steel** ✓ Tensile strength **26/30** ✓

Diameter (At turned off part, or Over threads) **1 7/8"** ✓ No. of threads per inch **9** ✓ Area supported by each stay **10 1/2" x 9 1/4"** ✓



Working pressure by Rules 221-lb. Are the stays drilled at the outer ends no Margin stays: Diameter ^{At turned off part.} 2" _{or} Over threads

No. of threads per inch 9 Area supported by each stay 12 1/8" x 9 1/4" Working pressure by Rules 221-lb.

Tubes: Material Steel External diameter ^{Plain} 3 1/2" _{Stay} Thickness 8.W.C. 1/2", 7/16", 3/8", 5/16" No. of threads per inch 9

Pitch of tubes 3 1/8" x 3 1/4" Working pressure by Rules 226-lb. Manhole compensation: Size of opening in shell plate 16" x 12" Section of compensating ring 000W1213 No. of rivets and diameter of rivet holes —

Outer row rivet pitch at ends — Depth of flange if manhole flanged 3 3/4" 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 —

How connected to shell — Inner radius of crown — Working pressure by Rules — 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 THE NORTH EASTERN MARINE ENGINEERING CO. (1938) LTD.

The foregoing is a correct description,
J. H. Smith RESIDENT MANAGER

Dates of Survey ^{During progress of work in shops - - -} Please see Rpt 4 Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) —

^{while building} _{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 & the requirements of the Rules. Workmanship and materials are good. In recommendation please see Rpt 4.

Survey Fee £ Rpt. 4 When applied for, 192

Travelling Expenses (if any) £ — When received, 192

L. R. Home
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE 2 JUN 1942

Assigned See Std. J.C. 33397

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