

REPORT ON BOILERS.

Lpool F.E. No. 120973

No. ~~120747~~

Rpt. 5a.

7 MAR 1944

IN D.O.

Date of writing Report 25/1

When handed in at Local Office 19 44

Received at London Office

Port of Liverpool

No. in Survey held at Birkenhead

Date, First Survey 10/9/43

Last Survey 31/1/44

on the 5/5" C 625"

(Number of Visits 15) Gross Tons 351 Net 142

Master _____ Built at Northwich By whom built W. Yarwood & Sons Ltd Yard No. 726 When built _____
 Engines made at Northwich By whom made W. Yarwood & Sons Ltd Engine No. 213 When made _____
 Boilers made at Birkenhead By whom made Cammell Laird & Co Boiler No. 2305 When made 1944
 Nominal Horse Power 43.6 Owners _____ Port belonging to _____

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Colvilles Ltd: ✓ (Letter for Record (5) ✓)
 Total Heating Surface of Boilers 1105 sq ft ✓ Is forced draught fitted No ✓ Coal or Oil fired Coal ✓
 No. and Description of Boilers 1. SE ✓ Working Pressure 200 lbs ✓
 Tested by hydraulic pressure to 350 lbs ✓ Date of test 26/1/44 No. of Certificate 2634 Can each boiler be worked separately ✓
 Area of Firegrate in each Boiler 35 sq ft ✓ No. and Description of safety valves to each boiler 2-13/4" Improved High Lift ✓
 Area of each set of valves per boiler { per Rule 3.218 as fitted 4.82 } Pressure to which they are adjusted 200 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 plates and bunkers or woodwork 11 1/2" Is oil fuel carried in the double bottom under boilers none ✓
 Smallest distance between shell of boiler and tank top plating Open floors Is the bottom of the boiler insulated No ✓
 Largest internal dia. of boilers 10'-6" ✓ Length 11'-0" ✓ Shell plates: Material Steel ✓ Tensile strength 29/33 Tons ✓
 Thickness 31/32" ✓ Are the shell plates welded or flanged No ✓ Description of riveting: circ. seams { end D.R. ✓ inter. 2-69 ✓ }
 long. seams T.R.-D.B.S. ✓ Diameter of rivet holes in { circ. seams 1" ✓ long. seams } Pitch of rivets { 6 15/16 ✓ }
 Percentage of strength of circ. end seams { plate 63. ✓ rivets 48. } Percentage of strength of circ. intermediate seam { plate 85. ✓ rivets 89. }
 Percentage of strength of longitudinal joint { plate 89. ✓ rivets 88. } Working pressure of shell by Rules 204 lbs ✓
 Thickness of butt straps { outer 3/4" ✓ inner 7/8" } No. and Description of Furnaces in each Boiler Two Brighton Section: 2 cf ✓
 Material Steel ✓ Tensile strength 26/30 Tons ✓ Smallest outside diameter 3'-1 5/16" ✓
 Length of plain part { top ✓ bottom } Thickness of plates { crown 17/32 ✓ bottom } Description of longitudinal joint weld ✓
 Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules 206 lbs ✓
 End plates in steam space: Material Steel ✓ Tensile strength 26/30 Tons ✓ Thickness 29/32" ✓ Pitch of stays 14 3/4" x 14 1/4" ✓
 How are stays secured D.N.W. ✓ Working pressure by Rules 206 lbs ✓
 Tube plates: Material { front Steel ✓ back } Tensile strength { 26/30 Tons ✓ } Thickness { 29/32" ✓ 27/32" }
 Mean pitch of stay tubes in nests 10 5/16" ✓ Pitch across wide water spaces 14" ✓ Working pressure { front 214 lbs ✓ back 216 lbs }
 Girders to combustion chamber tops: Material Steel ✓ Tensile strength 28/32 Tons ✓ Depth and thickness of girder at centre 7/4" x 3/4" dble. ✓ Length as per Rule 2'-6" ✓ Distance apart 4 3/8" ✓ No. and pitch of stays in each 2 @ 9 1/2" ✓ Working pressure by Rules 206 lbs ✓
 Tensile strength 26/30 Tons ✓ Thickness: Sides 11/16" ✓ Back 21/32" ✓ Top 11/16" ✓ Bottom 7/8" ✓
 Pitch of stays to ditto: Sides 8 x 9 1/2" ✓ Back 8 1/8 x 8 5/8" ✓ Top 9 1/2 x 4 3/8" ✓ Are stays fitted with nuts or riveted over nuts ✓
 Working pressure by Rules 214 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 29/32" ✓
 Pitch of stays at wide water space 14 1/4" ✓ Are stays fitted with nuts or riveted over nuts ✓
 Working Pressure 250 lbs ✓ Main stays: Material Steel ✓ Tensile strength 28/32 Tons ✓
 Diameter { At body of stay, or Over threads } 2 1/2" ✓ No. of threads per inch 6 ✓ Area supported by each stay 14 3/4" x 14 1/4" ✓
 Working pressure by Rules _____ Screw stays: Material Steel ✓ Tensile strength 26/30 Tons ✓
 Diameter { At turned off part, or Over threads } 1 3/4" - 1 5/8" ✓ No. of threads per inch 9 ✓ Area supported by each stay 7 6" (sides) ✓

Working pressure by Rules **216 lb** Are the stays drilled at the outer ends **No.** Margin stays: Diameter **1 3/4" Corner 1 7/8"**
 No. of threads per inch **9** Area supported by each stay **89 3/8" x 102"** Working pressure by Rules **203 lb**
 Tubes: Material **Iron** External diameter **3"** Thickness **3/8"** No. of threads per inch **9**
 Pitch of tubes **4 1/8" x 4 1/8"** Working pressure by Rules **250 lb** Manhole compensation: Size of opening in shell plate **2 1/4" x 1 1/4"** Section of compensating ring **2 1/2" x 2 1/2" x 1"** No. of rivets and diameter of rivet holes **54 @ 1"**
 Outer row rivet pitch at ends **6 15/16"** Depth of flange if manhole flanged **3 1/2"** 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 **None**

Manufacturers of **W W Frenemy**

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 _____
 Area of each safety valve _____ Are the safety valves fitted with casing 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 _____

The foregoing is a correct description,

W W Frenemy

Manufacturer.

Dates of Survey **Sept 10, 29 Oct 19, 27 Nov 11, 18 Dec 10, 29, 30**
 while building **Jan 15, 24, 26, 29, 31**

Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)

Total No. of visits **15**

Is this Boiler a duplicate of a previous case **yls.** If so, state Vessel's name and Report No. **Yarwoods N° 713. Blk N° 2242.**

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

This boiler has been built under Special Survey, to approved plans in accordance with the Society's Rules. Materials and workmanship are good. It is intended for W W F Yarwood Sons Ltd Yard N° 726.

Fitted on board.

C. Reed

Survey Fee **NB** ... £ **7 : 7 : 0** When applied for, **8 MAR 1914**
 Travelling Expenses (if any) £ : : When received, **19**

H. Sutherland

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

LIVERPOOL 14 MAR 1914

LIVERPOOL - 2 MAY 1914

Assigned

Transmit to London.

See Minute on Liverpool I.E. Report

