

Rpt. 5a.

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REPORT ON BOILERS.

No. 11597

Received at London Office

27 AUG 1943

Date of writing Report 20th Aug 1943 When handed in at Local Office 26th Aug 1943 Port of MANCHESTER.

No. in Reg. Book. Survey held at BLACKBURN. Date, First Survey 7th May, 1943 Last Survey 28th July 1943.

on the *Star Single Screw Lug "EMPIRE PERCY"*(Number of Visits **Eight.**)Gross
Tons
NetMaster Built at *Home* By whom built *R. Dunston & Sons Ltd.* Yard No. 384. When built 1943Engines made at *Paisley* By whom made *McKie & Baxter* Engine No. 1340 When made

Boilers made at BLACKBURN. By whom made Foster, Yates & Thom Ltd. Boiler No. 6228 When made 1943.

Nominal Horse Power 85. Owners *Ministry of War Transport* Port belonging toMULTITUBULAR BOILERS—MAIN, ~~AUXILIARY~~ OR ~~DONKEY~~Manufacturers of Steel Colvilles Ltd. (Letter for Record ☒)

Total Heating Surface of Boilers 1716 sq.ft. per boiler. Is forced draught fitted Yes. Coal or Oil fired Coal.

No. and Description of Boilers One S.E. Multitubular Scotch Boiler. Working Pressure 200 lbs/sq".

Tested by hydraulic pressure to 350 lbs Date of test 13.7.43 No. of Certificate 115 Can each boiler be worked separately -

Area of Firegrate in each Boiler 59 sq.ft. No. and Description of safety valves to each boiler *Two ordinary*

Area of each set of valves per boiler { per Rule - 9.970 - as fitted - 11.86 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 FT. Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating NONE Is the bottom of the boiler insulated No

Largest internal dia. of boilers 13'-0" Length 11'-0" Shell plates: Material O.H. Steel. Tensile strength 29/33 tons/sq"

Thickness 1.5/32" Are the shell plates welded or flanged No. Description of riveting: circ. seams { end D. R. lap. inter. -

long. seams T.R. D.B.S. Diameter of rivet holes in { circ. seams 1 1/4" long. seams 1 1/4" Pitch of rivets { 3.4" 8 1/2"

Percentage of strength of circ. end seams { plate 63.2 rivets 54.0 446 Percentage of strength of circ. intermediate seam { plate 85.3 rivets 93.2

Percentage of strength of longitudinal joint { plate 85.3 rivets 93.2 combined 89.2 117 Working pressure of shell by Rules 201.8 lbs/sq.inch.

Thickness of butt straps { outer 7/8" inner 1" No. and Description of Furnaces in each Boiler Three Deighton Corrugated.

Material O.H. Steel. Tensile strength 26/30 tons/sq.in. Smallest outside diameter 3'3 1/2"

Length of plain part { top 10 1/2" bottom 8.13/32" Thickness of plates { crown 9/16" bottom 16" Description of longitudinal joint Weld.

Dimensions of stiffening rings on furnace or c.c. bottom - Working pressure of furnace by Rules 208 lbs/sq.in.

End plates in steam space: Material O.H. Steel. Tensile strength 26/30 tons/sq" Thickness 1.1/16" Pitch of stays 18" x 17"

How are stays secured Nuts and washers inside and outside. Working pressure by Rules 206 lbs/sq.in.

Tube plates: Material { front O.H. Steel. back " Tensile strength { 26/30 tons/sq.in. Thickness { 29/32" 3/4"

Mean pitch of stay tubes in nests 10.9375" x 8.75" Pitch across wide water spaces 14" x 8 3/4" Working pressure { front 207.5 lbs/sq.in. back 209.5 lbs/sq.in.

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

at centre 7 1/4" x 1 1/2" Length as per Rule 28.6" Distance apart 8 1/2" No. and pitch of stays

in each 2 at 9" Working pressure by Rules 254.5 lbs/sq" Combustion chamber plates: Material O.H. Steel.

Tensile strength 26/30 tons/sq.in. Thickness: Sides 11/16" Back 21/32" Top Sides 11/16" Bottom Sides 11/16"

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

Working pressure by Rules 203.5 lbs/sq" Front plate at bottom: Material O.H. Steel. Tensile strength 26/30 tons/sq".

Thickness 29/32" Lower back plate: Material O.H. Steel. Tensile strength 26/30 tons/sq" Thickness 13/16"

Pitch of stays at wide water space 14" x 8" Are stays fitted with nuts or riveted over Nuts.

Working Pressure 206.5 lbs/sq" Main stays: Material O.H. Steel. Tensile strength 28/32 tons/sq".

Diameter { At body of stay, 2 7/8" Over threads - No. of threads per inch 6 Area supported by each stay 18" x 17"

Working pressure by Rules 205 lbs/sq.in. Screw stays: Material O.H. Steel. Tensile strength 26/30 tons/sq.in.

Diameter { At turned off part, 1 5/8" Over threads - No. of threads per inch 9 Area supported by each stay 8 1/2" x 8"

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Working pressure by Rules 210 lbs/sq. in. the stays drilled at the outer ends No. Margin stays: Diameter { At turned off part, -
Over threads 2", 1 7/8" & 1 3/4".
No. of threads per inch 9. Area supported by each stay 10" x 11 1/4" Working pressure by Rules 198.6 lbs/sq. in.
Tubes: Material Steel (Not Rolled.) External diameter { Plain 3 1/4" 8 L.S.G.
Stay 3 1/4" Thickness { 5/16" & 7/16" No. of threads per inch 9
Pitch of tubes 9.15/16" x 8 3/4" Working pressure by Rules 262.5 lbs/sq. in. Manhole compensation: Size of opening in
shell plate 17" x 21" Section of compensating ring 8 1/2" x 1 1/8" No. of rivets and diameter of rivet holes 36 at 1 1/2"
Outer row rivet pitch at ends 8 1/2" Depth of flange if manhole flanged 3" 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

FOSTER, YATES & CO. The foregoing is a correct description,
Chief Engineer. Manufacturer.

Dates of Survey { During progress of work in shops - - 1943. May 7, 18, 31. June 8, 18.
July 6, 13, 28. 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

Is this Boiler a duplicate of a previous case Yes. If so, state Vessel's name and Report No. "EMPIRE LEWIS". Mch:Rpt.11,574.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) THIS BOILER HAS BEEN CONSTRUCTED UNDER
SPECIAL SURVEY OF TESTED MATERIALS AND IN ACCORDANCE WITH THE SECRETARY'S LETTERS, APPROVED PLANS
AND THE REQUIREMENTS OF THE RULES. THE MATERIALS AND WORKMANSHIP ARE OF GOOD QUALITY AND THE BOILER
WHEN TESTED IN THE SHOPS UNDER AN HYDRAULIC PRESSURE OF THREE HUNDRED AND FIFTY LBS PER SQUARE INCH
WAS FOUND SOUND AND TIGHT.

THIS BOILER, IN MY OPINION, IS SUITABLE TO BE FITTED ON BOARD A VESSEL CLASSED WITH THIS SOCIETY
AND FOR THE PURPOSE INTENDED.

THE BOILER SHELL PLATE AT THE FRONT END AND LEFT HAND SIDE HAS BEEN STAMPED:-

No. 115.
LLOYD'S TEST.
350 lbs/sq. in.
W.P. 200 lbs/sq. in.
E.L.K.13.7.43.

Above boiler installed on "EMPIRE PERCY" at Hull, examined under working conditions, safety
valve adjusted & accumulation test held and afterwards examined & found satisfactory after all
tests
H. S. Shields.

Survey Fee &..25%... £ 14 : 7 : 6 When applied for, 26/8/43 to 19
Travelling Expenses (if any) £ 2 : 0 : 0 When received, 19

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 22 OCT 1943

Assigned

See fe. mach. rpl.
Hul 52178



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