

REPORT ON BOILERS.

No. 14491.

Received at London Office

Date of writing Report 14th July 1943 When handed in at Local Office 19th July 1943 Port of MiddlesbroughNo. in Reg. Book. Surrey held at Stockton-on-Tees. Date, First Survey 28th July 1942 Last Survey 8th July 1943

on the Steel Single Screw Tug "EMPIRE LILLIPUT" 4/MS 401 (Number of Visits 21.) Tons { Gross 138 Net 116

Built at Thorne By whom built Richard Dunsdon Ltd. Yard No. T385 When built 1944
 Engines made at Wigan By whom made Worsley Engines Ironworks Engine No. M3 T385 When made " "
 Boilers made at Stockton-on-Tees By whom made Stockton Chem. Engs. & Riley Bros Ltd. Boiler No. 6618 When made 1943
 Nominal Horse Power Owners Ministry of War Transport Port belonging to

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel (Letter for Record 5)
 Total Heating Surface of Boilers 1716 sq ft Is forced draught fitted No Coal or Oil fired Coal
 No. and Description of Boilers 1 S.E. Marine Working Pressure 200 lbs/sq in
 Tested by hydraulic pressure to 350 lbs Date of test 8/7/43 No. of Certificate 7085 Can each boiler be worked separately ✓
 Area of Firegrate in each Boiler 59 sq ft No. and Description of safety valves to each boiler 1 - 2 3/4" Double Safety Valve
 Area of each set of valves per boiler { per Rule 9.97 sq in as fitted 11.88 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 1'-0" Is oil fuel carried in the double bottom under boilers No
 Smallest distance between shell of boiler and tank top plating ✓ Is the bottom of the boiler insulated No
 Largest internal dia. of boilers 13'-0" Length 11'-0" Shell plates: Material Steel Tensile strength 29.33
 Thickness 1 5/32" Are the shell plates welded or flanged No Description of riveting: circ. seams { end D.R. 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" 8.5"
 Percentage of strength of circ. end seams { plate 64.4% rivets 49.9% Percentage of strength of circ. intermediate seam { plate 85.29% rivets 49.6%
 Percentage of strength of longitudinal joint { plate 96.12% rivets 87.36% combined 117.03%
 Thickness of butt straps { outer 7/8" inner 1" No. and Description of Furnaces in each Boiler 3. Delphinia Corrugated.
 Material Steel Tensile strength 26.30 Smallest outside diameter 3'-3 3/8"
 Length of plain part { top 5'-7" bottom 5'-7" Thickness of plates { crown 9/16" bottom 9/16" Description of longitudinal joint welded.
 Dimensions of stiffening rings on furnace or c.c. bottom ✓
 End plates in steam space: Material Steel Tensile strength 26.30 Thickness 1 1/16" Pitch of stays 18" x 17"
 How are stays secured D. nuts & washers.
 Tube plates: Material { front Steel Tensile strength 26.30 Thickness { 29/32" 3/4"
 Mean pitch of stay tubes in nests 10.094" Pitch across wide water spaces 14"
 Girders to combustion chamber tops: Material Steel Tensile strength 28.32 Depth and thickness of girder at centre 8 1/2" x 7 1/4" 2 @ 3 1/4" Length as per Rule 2'-4 9/32" Distance apart 8 1/2" x 10 3/4" No. and pitch of stays in each 2 - 9"
 Combustion chamber plates: Material Steel Tensile strength 26.30 Thickness: Sides 1 1/16" Back 2 1/32" Top 1 1/16" Bottom 1 1/16" being c.c. 1 1/16" and c.c. 3/16"
 Pitch of stays to ditto: Sides 9" x 8 1/4" Back 8 1/2" x 8" Top 9" x 8 1/2" Are stays fitted with nuts or riveted over hubs.
 Front plate at bottom: Material Steel Tensile strength 26.30
 Thickness 29/32" Lower back plate: Material Steel Tensile strength 26.30 Thickness 13/16"
 Pitch of stays at wide water space 14" Are stays fitted with nuts or riveted over hubs.
 Main stays: Material Steel Tensile strength 28.32
 Diameter { At body of stay, or Over threads 2 7/8" No. of threads per inch 6
 Screw stays: Material Steel Tensile strength 26.30
 Diameter { At turned off part, or Over threads 1 7/8" - 1 3/4" - 1 9/8" No. of threads per inch 9

Are the stays drilled at the outer ends no. Margin stays: Diameter { At turned off part, or Over threads 1 3/4"

No. of threads per inch 9.

Tubes: Material Weldless Steel External diameter { Plain 3 1/4" Stay 3 1/4" Thickness { 8 L.S. 9. 7/16" x 5/16" No. of threads per inch 9.

Pitch of tubes 4 3/8" x 4 3/8" Manhole compensation: Size of opening in shell plate 21" x 17" Section of compensating ring 8 1/2" x 1 1/8" No. of rivets and diameter of rivet holes 36 - 1 1/4"

Outer row rivet pitch at ends 8 1/2" Depth of flange if manhole flanged ☒ Steam Dome: Material hous.

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 Thickness of crown No. and diameter of stays

Inner radius of crown

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 forgings 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

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 YES

For and on behalf of STANTON ENGINEERS & RILEY ENGINEERS LTD. The foregoing is a correct description,

Manufacturer.

Dates of Survey { During progress of work in shops - 1942 July 28, Aug. 14, Sept. 10, 23 Nov. 4, 18, Dec. 4, 27, Jan. 11, 20, Feb. 8, 24, Mar. 11, 29, April 14, 30, May 12, June 4, 9, 28 July 8. Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) 10/11/41.

while building { During erection on board vessel - - - } Total No. of visits 21

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.)

This boiler has been built under Special Survey & in accordance with the Rule Requirements & approved plan.

The materials & workmanship are good & on completion the boiler was hydraulically tested to 350 lbs/sq. in. & found satisfactory.

This boiler has been despatched to Albert Dock - Hull for installation on Messrs R. Dunsdon's Ltd. contract No. 7385.

The above boiler installed in steel single screwing EMPIRE LILLIPUT at Hull by Chas. B. Holmes under Special Survey, examined under steam, safety valves adjusted as ordered, accumulation test held and afterwards examined after all tests & found satisfactory in every respect. W. Shields 25/1/44 Hull.

Spn chrgd at Hull.

Survey Fee 28-1-44. 2 2 6 £ 11 : 8 : 6

Travelling Expenses (if any) £ :

When applied for,

19 JUL 1943

When received,

19

W. Norman Stuart

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUES. 22 FEB 1944

Assigned

See for machinery rll

Hull 52308



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