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SUNDERLAND RPT. NO 35114

pt. 5a.

## REPORT ON BOILERS.

No. 18585.

Received at London Office

14 SEP 1948

Date of writing Report 7th Sept. 48. When handed in at Local Office 10th Sept. 48. Port of MIDDLESBROUGH.

No. in Survey held at Stockton-on-Tees. Date, First Survey 20th Jan. Last Survey 7th Sept. 19 48.

on the "BRITISH LIBERTY" (Number of Visits 5.) Gross 8589 Tons Net 4952

Built at Sunderland By whom built Wm. Doxford &amp; Sons Ltd. Yard No. 465 When built 1949

Engines made at Sunderland. By whom made Wm. Doxford &amp; Sons. Engine No. 765 When made 1949.

Boilers made at Stockton-on-Tees. By whom made Stockton C.E. &amp; R.B. Ltd., Boiler No. 7052 When made 1946.

Nominal Horse Power Owners British Tanker Co Ltd. Port belonging to London.

## MULTITUBULAR BOILERS - MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Appleby Frodingham Steel Co, Ltd., (Letter for Record 3)

Total Heating Surface of Boilers 2020 sq. ft. Is forced draught fitted Yes Coal or Oil fired Oil &amp; Ex. Gas.

and Description of Boilers 1. S.E. Multitubular. Working Pressure 150 lbs. per sq. in.

Tested by hydraulic pressure to 275 lbs Date of test 7.9.48 No. of Certificate 7251 Can each boiler be worked separately

No. and Description of safety valves to each boiler 3" double high lift.

No. of each set of valves per boiler {per Rule 12.25, as fitted 14.14} Pressure to which they are adjusted 150 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

Smallest distance between shell of boiler and tank top plating Is the bottom of the boiler insulated Yes.

Greatest internal dia. of boilers 12' 10.3/16" Length 11'6" Shell plates: Material steel Tensile strength 29.33

Thickness 29/32" Are the shell plates welded or flanged - Description of riveting: circ. seams {end D.R. lap. inter. -}

Diameter of rivet holes in {circ. seams 1.1/16" long. seams 1.1/16" Pitch of rivets {3.187. 7.1/16"

Percentage of strength of circ. end seams {plate 66.6% rivets 48.7 Percentage of strength of circ. intermediate seam {plate 84.9 rivets 103}

Percentage of strength of longitudinal joint {plate 84.9 rivets 103 combined

Thickness of butt straps {outer 23/32" inner 27/32" No. and Description of Furnaces in each Boiler 2 Deighton corrugated.

Tensile strength 26.30 Smallest outside diameter 3'10"

Thickness of plates {crown 1/2" bottom 1/2" Description of longitudinal joint welded.

Dimensions of stiffening rings on furnace or c.c. bottom

Plates in steam space: Material steel Tensile strength 26.30 Thickness 1" Pitch of stays 18" x 17"

Are stays secured Double nuts and washers screwed into both plates.

Plates: Material {front steel back steel Tensile strength {26.30 Thickness {7/8" 3/4"

Pitch of stay tubes in nests 9 3/8" Pitch across wide water spaces 13 1/2"

Access to combustion chamber tops: Material steel Tensile strength 28.32 Depth and thickness of girder

Length as per Rule 2' 4" Distance apart 9" No. and pitch of stays

Combustion chamber plates: Material steel Tensile strength 28.32

Thickness: Sides 21/32" Back 19/32" Top 21/32" Bottom 21/32"

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

Plate at bottom: Material steel Tensile strength 26.30

Lower back plate: Material steel Tensile strength 26.30 Thickness 3/8"

of stays at wide water space 13 1/2" Are stays fitted with nuts or riveted over nuts.

Stays: Material steel Tensile strength 28.32

At body of stay, or Over threads 2 3/4" No. of threads per inch 6

At turned off part, or Over threads 1 1/2" No. of threads per inch 9

Tensile strength 26.30

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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 Seamless Steel External diameter { Plain 2 1/2" Stay 2 1/8" Thickness { 10 S.W.G. 5/16" No. of threads per inch 9

Pitch of tubes 3 3/4" x 3 3/4" Manhole compensation: Size of opening

shell plate 21" x 17" Section of compensating ring 8 3/4" x 1 1/8" No. of rivets and diameter of rivet holes 52 - 1.1/16"

Outer row rivet pitch at ends 7.1/16" Depth of flange if manhole flanged

Steam Dome: Material None

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 diameters

stays Inner radius of crown

How connected to shell Size of doubling plate under dome Diameter of rivet holes and

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

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 press

tubes forgings and castings and after assembly in place Are drain co

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,

1948. Jan. 20 June 28. July 23. Are the approved plans of boiler and superheater forwarded herewith 9.2.48  
Aug. 31. Sept. 7. (If not state date of approval.)

Dates of Survey { During progress of work in shops - - - Total No. of visits 5.  
while building { During erection on board vessel - - -

Is this Boiler a duplicate of a previous case If so, state Vessel's name and Report No.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been constructed un

Special Survey and in accordance with the Rule Requirements and approved plan.

The materials and workmanship are good, and on completion the boiler was hydraulically tested to 275 lbs per sq. inch and found satisfactory.

This boiler is being forwarded to Sunderland for Wm. Doxford's Con. No. 765

This boiler has been securely fixed on board the vessel & safety valves adjusted under steam & working pressure. In recommendation please see Machinery Rpt. H. St. Fraser.

Survey Fee ... £ 33 : 12 : 0 When applied for, 13.9. 19 48.  
Travelling Expenses (if any) £ : : When received, 19

Committee's Minute

FRI. 3 JUN 1948

Assigned

In minute see J.E. Rpt

H. St. Fraser  
Engineer Surveyor to Lloyd's Register of Shipping



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