

RECEIVED

SUNDERLAND RPT. No. 35599

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IN D.O.

REPORT ON BOILERS.

No. 19071.

5 JUN 1950

Received at London Office...

Date of writing Report 23rd May 1950. When handed in at Local Office 1st June 1950. Port of MIDDLESBROUGH.

No. in Reg. Book. Survey held at Stockton on Tees. Date, First Survey 24th March. Last Survey 22nd May 1950.

on the BRITISH DEFENDER

(Number of Visits 5) Gross 6138 Tons Net 3335

Master Sunderland Built at Wm. Doxford & Sons Ltd. Card No. 779 When built 1930

Engines made at Sunderland. By whom made Wm. Doxford & Sons Ltd. Engine No. 779 When made 1930

Boilers made at Stockton on Tees. By whom made Stockton Chemical Engineers & Riley Boilers Ltd. Boiler No. 7201 When made 1930

Net Horse Power 516 Owners British Tanker Co Port belonging to

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel The Steel Company of Scotland Ltd. (Letter for Record S)

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

No. and Description of Boilers 1 S.E. Multitubular. Working Pressure 150 lbs. per sq"

Tested by hydraulic pressure to 275 lbs. Date of test 22.5.50 No. of Certificate 7303 Can each boiler be worked separately Yes

Area of firegrate in each Boiler 14.12 No. and Description of safety valves to each boiler 3" double high lift.

Area of each set of valves per boiler 15.4 Pressure to which they are adjusted 150 lbs. Are they fitted with easing gear Yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler No

Smallest distance between boilers or uptakes and bunkers or woodwork 20" Is oil fuel carried in the double bottom under boilers Yes

Smallest distance between shell of boiler and tank top plating 11'6" Is the bottom of the boiler insulated Yes

Largest 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 No Description of riveting: circ. seams end D.R. Lap.

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

Percentage of strength of circ. end seams 66.6% Percentage of strength of circ. intermediate seam 7.146"

Percentage of strength of longitudinal joint 84.9 Working pressure of shell by Rules 157 lbs.

Thickness of butt straps 23/32" No. and Description of Furnaces in each Boiler 2 Deighton Corrugated.

Material steel. Tensile strength 26.30 Smallest outside diameter 3'10"

Length of plain part 1/2" Thickness of plates 1/2" Description of longitudinal joint welded.

Dimensions of stiffening rings on furnace or c.c. bottom 156 lbs.

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

How are stays secured Double nuts and washers screwed into both plates. Working pressure by Rules 150 lbs.

Tube plates: Material steel. Tensile strength 26.30 Thickness 7/8"

Mean pitch of stay tubes in nests 9 3/8" Pitch across wide water spaces 13 1/2" Working pressure 159 lbs.

Girders to combustion chamber tops: Material steel Tensile strength 28.32 Depth and thickness of girder 167 lbs.

at centre 7 1/2" - 1 1/4" Length as per Rule 2'-4" Distance apart 9" No. and pitch of stays 174 lbs.

in each welded. Working pressure by Rules 174 lbs. Combustion chamber plates: Material steel.

Tensile strength 26.30 Thickness: Sides 21/32" Back 19/32" Top 21/32" Bottom 21/32"

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

Working pressure by Rules 152 lbs. Front plate at bottom: Material steel Tensile strength 26.30

Thickness 7/8" Lower back plate: Material steel Tensile strength 26.30 Thickness 3/4"

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

Working pressure 150 lbs. Main stays: Material steel. Tensile strength 28.32

Diameter 2.3/4" No. of threads per inch 6 Area supported by each stay 306 per sq. inchs.

Working pressure by Rules 180 lbs. Screw stays: Material steel Tensile strength 26.30

Diameter 1 1/2" No. of threads per inch 9 Area supported by each stay 78.5

Working pressure by Rules 160 lbs. Are the stays drilled at the outer ends No. Margin stays: Diameter { At turned off part, 1 1/2" or Over threads 1 1/2" ✓
No. of threads per inch 9 Area supported by each stay 103.1 per sq. " Working pressure by Rules 176 lbs.
Tubes: Material seamless steel External diameter { Plain 2 1/2" ✓ Stay 2 1/2" ✓ Thickness { 10 SWG. ✓ 5/16" ✓ No. of threads per inch 9 ✓
Pitch of tubes 3 5/8" x 3 1/4" ✓ Working pressure by Rules Plain 175 lbs. stay 182 Manhole compensation: Size of opening in
shell plate 21" x 17" ✓ Section of compensating ring 8 5/8" 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 _____ 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 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 _____ 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 on
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,

SECTION CHIEF 1717 18.2.4 18.2.4

Dates of Survey { During progress of work in shops - - 1950. Mar. 24. Apr. 14, 28. May. 12. 22. Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval) 18.2.4
while building { During erection on board vessel - - - 12.22. Total No. of visits 5.

Is this Boiler a duplicate of a previous case Yes. If so, state Vessel's name and Report No. Riley's Blrs. 7139/42 Appd. 18.3.4

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

Special Survey and is 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 Messrs. Wm. Doxford & Sons Ltd., for their Con. No. 779.

This boiler has been securely fixed on board the vessel & Safety valves adjusted under steam to working pressure

For recommendation. Please see Machinery Rpt.

Det. H. asw.

Survey Fee ... £ 33 : 12 : -

When applied for, 2.6.19.50.

Travelling Expenses (if any) £ : :

When received 19.

E. Roman Sheriff.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 25 AUG 1950

Assigned

See minute on S.C. Rpt.



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Foundation