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SUNDERLAND RPT. NO. 35541

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REPORT ON BOILERS.

No. 19195

Received at London Office.

Date of writing Report 5th Oct. 1950. When handed in at Local Office 10th Oct. 1950. Port of MIDDLESBROUGH.

No. in Reg. Book. Survey held at Stockton on Tees. Date, First Survey 26th May Last Survey 2nd Oct. 1950.

on the BRITISH BUILDER (Number of Visits 10.) Tons Gross 8699 Net 5048
Master Built at Sunderland By whom built Wm. Doxford & Sons Yard No. 482 When built 1951

Engines made at Sunderland. By whom made Wm. Doxford & Sons. Engine No. 782. When made 1950.

Boilers made at Stockton-on-Tees. By whom made Stockton Chemical Engineers & Riley Boilers Ltd., Boiler No. 7197. When made 1950.

Nominal Horse Power Owners British Tankers Co. Port belonging to London.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Steel Co. of Scotland. (Letter for Record S)
Appleby Frodingham Steel Co.,

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. in.

Tested by hydraulic pressure to 275 lbs. Date of test 2.10.50 No. of Certificate 7316. Can each boiler be worked separately Yes.

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

Area of each set of valves per boiler per Rule 14.12 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.

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.

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 DR Lap.

long. seams TR. DBS. Diameter of rivet holes in circ. seams 1.1/16" Pitch of rivets 3.187
66.6% long. seams 1.1/16" 7.1/16"

Percentage of strength of circ. end seams plate 48.7 Percentage of strength of circ. intermediate seam plate 84.9

Percentage of strength of longitudinal joint rivets 103. Working pressure of shell by Rules 157 lbs.

Thickness of butt straps outer 23/32" inner 27/32" 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 top Thickness of plates crown 1/2" Description of longitudinal joint welded.

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 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 Working pressure by Rules 150 lbs.

Tube plates: Material front steel. Tensile strength plates 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 front 158 lbs.

Girders to combustion chamber tops: Material steel. Tensile strength 28.32 26/30 (letter 1/10/48) back 167 lbs.

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

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 At body of stay 2 3/4" No. of threads per inch 6 Area supported by each stay 306 per sq. inch.

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

diameter At turned off part 1 1/2" No. of threads per inch 9 Area supported by each stay 78.5

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Working pressure by Rules. 160 lbs. Are the stays drilled at the outer ends. No. Margin stays: Diameter { At turned off part. 1 3/4" or Over threads. 1 7/8" }
No. of threads per inch. 9 Area supported by each stay. 103.1 sq. inch. Working pressure by Rules. 176 lbs.
Tubes: Material seamless Steel External diameter { Plain 2 1/2" Stay 2 1/2" } Thickness { 10 S.W.G. 5/16" } No. of threads per inch. 9
Pitch of tubes. 3 5/8" x 3 5/8" Working pressure by Rules. Plain 175 lbs. Stay 182 lbs. 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. Plate. Rivets.
Diameter of rivet holes. Pitch of rivets. Percentage of strength of joint. No. and diameter of
Internal diameter. Working pressure by Rules. Thickness of crown.
stays. Inner radius of crown. Working pressure by Rules. Diameter of rivet holes and pitch
How connected to shell. Size of doubling plate under dome.
of rivets in outer row in dome connection to shell.

Type of Superheater. Manufacturers of { Tubes. Steel forgings. Steel castings. Internal diameter and thickness of tubes.
Number of elements. Material of tubes. Thickness. Can the superheater be shut off and
Material of headers. Tensile strength. 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 of
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,
For and on behalf of
STOCKTON CHEMICAL ENGINEERS & RILEY BOILERS LTD. Manufacturer

Dates of Survey while building { During progress of work in shops. 1950 May 26, June 28, July 26. Are the approved plans of boiler and superheater forwarded herewith. (If not state date of approval.)
During erection on board vessel. Aug. 17.29, Sept. 7.13.22.28. Total No. of visits. 10
Oct. 2.

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, etc.)

This boiler has been constructed under 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 Contract No. 782.

This boiler has been securely fitted on board the vessel
& safety valves adjusted under steam to working pressure.
On recommendations please see Machinery Rpt.

W. T. Fraser.

Survey Fee ... £ 33 : 13 : 4
Travelling Expenses (if any) £ : : }

When applied for, 10.10.1950.
When received, 19.

C. P. R. Stuart
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute. FRI. 20 APR 1951

Assigned

See F.E. Mackay. Rpt.



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