

Rpt. 5a.

REPORT ON BOILERS.

No. 19198.

Received at London Office..... 16 OCT 1950

Date of writing Report 10th Oct. 1950 When handed in at Local Office 13th Oct. 1950. Port of MIDDLESBROUGH.

No. in Survey held at Stockton-on-Tees. Date, First Survey 26th May. Last Survey 6th Oct. 1950.

Reg. Book. BRITISH BUILDER (Number of Visits 9)

on the Sunderland Built at Sunderland By whom built Wm. Doxford & Sons Ltd. Yard No. 482 When built 1951

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

Boilers made at Stockton-on-Tees. By whom made Stockton Chemical Engineers & Riley Boilers Ltd. Boiler No. 7198 When made 1950.

Nominal Horse Power 1951 Owners British Tankers Ltd. Port belonging to London.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Appleby Frodingham Steel Co. (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./sq. inch.

Tested by hydraulic pressure to 275 lbs. Date of test 6.10.50 No. of Certificate 7317. Can each boiler be worked separately Yes.

Area of Fire grate 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.

Is oil fuel carried in the double bottom under boilers Yes.

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 DR Lap.

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

Percentage of strength of circ. end seams 66.6% 48.7 Percentage of strength of circ. intermediate seam 84.9

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

Thickness of butt straps 23/32" 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 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"

Working pressure by Rules 150 lbs.

Tube plates: Material steel. Tensile strength 26.30 Thickness 7/8" 3/4"

Lean pitch of stay tubes in nests 9.3/8" Pitch across wide water spaces 13.1/2" Working pressure 158 lbs. 167 lbs.

Girders to combustion chamber tops: Material steel. Tensile strength 28.32 Depth and thickness of girder 26/30

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

Working pressure by Rules 152 lbs. Combustion chamber plates: Material steel

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

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"

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

At body of stay 2 1/4" 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

At turned off part 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 5/8" Over 1 5/8" }
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 { 5/16" No. of threads per inch 9 }
Pitch of tubes 3 3/4" x 3 3/4" 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 1/2" 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
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 Tensile strength Thickness Can the superheater be shut off and
Material of headers Is a safety valve fitted to every part of the superheater which can be shut off from the boiler
the boiler be worked separately Are the safety valves fitted with easing gear Working pressure of
Area of each safety valve Pressure to which the safety valves are adjusted Hydraulic test pressure
Rules Forgings and castings and after assembly in place
tubes 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
SIGNED
1950, May 26, June 28, Aug 17, 29, Sept 13, 22, 28, Oct 2, 6. Are the approved plans of boiler and superheater forwarded herewith
(If not state date of approval)
Total No. of visits

Is this Boiler a duplicate of a previous case Yes. If so, state Vessel's name and Report No. Middlesbrough Rpt. No. 19149.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

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
& the safety valves adjusted under steam to working pressure.
In recommendation Head Lu Mackay Rpt.

H. H. H. H. H.

Survey Fee 33 13 0 when applied for 13.10.19.50.
Travelling Expenses (if any) when received 19.

C. E. H. H. H. H. H.
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute FRI. 20 APR 1951

Assigned S. F. E. H. H. H. H.



© 2020

Lloyd's Register
Foundation