

Rpt. 5a.

REPORT ON BOILERS.

Mdb. Rpt No. 17999.

No. 17860

31 MAY 1945

Received at London Office

Date of writing Report 26th May 1945 When handed in at Local Office 30th May 1945 Port of Middlesbrough.No. in Survey held at 110th - 12th Jers. Date, First Survey 6th December 1944 Last Survey 18th May 1945.

Reg. Book. S/S "WAVE SOVEREIGN" (Number of Visits 19.) Gross 8181 Tons Net 4559

Built at Haverton Hill - 12th Jers. By whom built James Shipbuilding Co. Ltd. Yard No. 364 When built 1946-2

Engines made at West Hartlepool By whom made Richardson's Westgate. Engine No. 2754 When made 1946

Boilers made at 110th - 12th Jers. By whom made 110th C.E. + Riley Bros Ltd. Boiler No. 6833 When made 1945.

Nominal Horse Power 1210 Owners Admiralty Port belonging to London.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel The Steel Company of Scotland. (Letter for Record 5.

Total Heating Surface of Boilers 2080 sq ft Is forced draught fitted 4/4. Coal or Oil fired Yes.

No. and Description of Boilers 1 S.E. Marine Working Pressure 180 lb. sq. in.

Tested by hydraulic pressure to 320 lb. Date of test 18/5/45 No. of Certificate 7143. Can each boiler be worked separately

Area of Firegrate in each Boiler No. and Description of safety valves to each boiler 2 1/4" Safety Spring - High Lift.

Area of each set of valves per boiler { per Rule 6.670 sq ft as fitted 7.950 sq ft Pressure to which they are adjusted 185 lb. 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 3' 6" Is oil fuel carried in the double bottom under boilers Yes.

Smallest distance between shell of boiler and tank top plating 18" Is the bottom of the boiler insulated Yes.

Largest internal dia. of boilers 13' 3 1/16" Length 11' 6" Shell plates: Material Steel Tensile strength 29.33

Thickness 1 3/32" Are the shell plates welded or flanged No. Description of riveting: circ. seams { end DR. inner.

long. seams TR. DBS. Diameter of rivet holes in { circ. seams 1 3/16" long. seams 1 3/16" Pitch of rivets { 3.59" 8 3/16"

Percentage of strength of circ. end seams { plate 66.7% rivets 44.7% Percentage of strength of circ. intermediate seam { plate 85.5% rivets 91.85% combined 87.36%

Percentage of strength of longitudinal joint { plate 85.5% rivets 91.85% combined 87.36%

Thickness of butt straps { outer 7/8" inner 1" No. and Description of Furnaces in each Boiler 3 Deep/In Corrugated.

Material Steel. Tensile strength 26.30 Smallest outside diameter 3' 1 1/4"

Length of plain part { top 1' bottom 1' Thickness of plates { crown 1/2" bottom 1/2" 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 5/32" Pitch of stays 19" x 17 1/2"

How are stays secured Stays screwed into back end plate, flanged front end. Double nuts & washers.

Tube plates: Material { front Steel. Tensile strength 26.30 Thickness { 1 3/16" 1 1/16"

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

Girders to combustion chamber tops: Material Steel Tensile strength 28.32 Depth and thickness of girder

at centre 8 3/8" - 2 @ 13 1/16" Length as per Rule 2' 8" Distance apart 10" No. and pitch of stays

in each 2 - 10" Combustion chamber plates: Material Steel.

Tensile strength 26.30 Thickness: Sides 2 1/32" Back 1 1/16" Top 2 3/32" Bottom 2 1/32"

Pitch of stays to ditto: Sides 10" x 8" Back 10 1/2" x 7 1/2" Top 10" x 10" Are stays fitted with nuts or riveted over

Front plate at bottom: Material Steel. Tensile strength 26.30

Thickness 1 3/16" Lower back plate: Material Steel Tensile strength 26.30 Thickness 2 7/32"

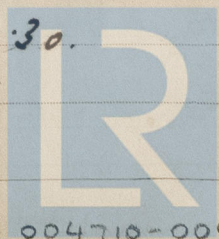
Pitch of stays at wide water space 15" Are stays fitted with nuts or riveted over Anti.

Main stays: Material Steel Tensile strength 28.32

Diameter { At body of stay, 2 7/8" No. of threads per inch 6

Screw stays: Material Steel Tensile strength 26.30

Diameter { At turned off part, 1 3/4" No. of threads per inch 9.



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Are the stays drilled at the outer ends ho. Margin stays: Diameter { At turned off part, or Over threads 1 7/8"

No. of threads per inch 9.

Tubes: Material Seamless Steel External diameter { Plain 2 1/2" Stay 2 1/2" Thickness { 9 W. 9. 2 p. 1 5/16" No. of threads per inch 9.

Pitch of tubes 3 3/4" x 3 3/4" Manhole compensation: Size of opening in shell plate 20 1/2" x 16 1/2" Section of compensating ring 6 3/4" x 1 1/8" No. of rivets and diameter of rivet holes 36 - 1 3/16"

Outer row rivet pitch at ends 8 3/16" Depth of flange if manhole flanged ✓ Steam Dome: Material ho.

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

tubes forgings and castings and after assembly in place Hydraulic test pressure: 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 For and on behalf of STOCKTON CHEMICAL ENGINEERS & RILEY BOILERS LTD. The foregoing is a correct description, L. R. Riley, Manufacturer.

Dates of Survey { During progress of work in shops - - { 1944 Dec. 6, 14, 21, 29, 1945 Jan. 12, 23, Feb 3, 15, 22, March 1, 6, 13, 23, 29, April 6, 25, May 1, 15, 18. Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) 4/1/44.

while building { During erection on board vessel - - {

Total No. of visits 19.

Is this Boiler a duplicate of a previous case Yes. If so, state Vessel's name and Report No. H. M. S. H. N. 17673.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been constructed under Special Survey, & in accordance with the approved plan & Rule Requirements. The materials & workmanship are good, & on completion the boiler was hydraulically tested to 320 lbs. per sq. inch & found satisfactory. This boiler is being forwarded to the turner, Glasgow for Richardson's Westgate's Contract No. 2754. This boiler has now been securely fitted on board & maintained under working conditions & found satisfactory. On completion the SVs were adjusted under steam to 185 lbs. per sq. inch.

Survey Fee	£ 13 : 18 : 0	When applied for,	30 / 5 / 1945
SUPERVISION FEE			
Travelling Expenses (if any)	£ 3 : 9 : 6	When received,	13 / 3 / 1946

L. R. Riley
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 5 APR 1946

Assigned Sir F. E. Mackay, R.S.