

REPORT ON BOILERS.

MIDB. 17867.

No. 17797

19 FEB 1945

Received at London Office

Date of writing Report 12th Feb 1945 When handed in at Local Office 16th Feb 1945 Port of Middlesbrough.

No. in Survey held at 10 Book. 10 Date, First Survey 8th Sept. 1944 Last Survey 6th Feb. 1945

on the S/S "WAVE REGENT" (Number of Visits 17.) Gross 8184 Tons Net 4554.

built at Hamelin Hill. n. Dec. By whom built Furness Shipbuilding Co. Ltd. Yard No. 363 When built 1945.5.
engines made at West Hartlepool By whom made Richardsons Westgarth Engine No. 2752 When made 1945
boilers made at Hamelin Hill. n. Dec. By whom made Hamelin Hill. n. Dec. Boilers Boiler No. 6831 When made 1945
nominal Horse Power Owners Admiralty Port belonging to London.

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

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

Total Heating Surface of Boilers 2080 sq. Is forced draught fitted Yes. Cooler Oil fired Yes.

No. and Description of Boilers 1. SE. Marine. Working Pressure 180 lbs/sq. in.

Tested by hydraulic pressure to 320 lb. Date of test 6/2/45 No. of Certificate 7137 Can each boiler be worked separately

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

Area of each set of valves per boiler { per Rule 6.670" as fitted 7.950" Pressure to which they are adjusted 185 lb/sq. in. 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 1/4" Length 11'-6" Shell plates: Material Steel Tensile strength 29-33

Thickness 1 1/2" Are the shell plates welded or flanged No. Description of riveting: circ. seams end DR. inter. Yes.

Long. seams TR. DBs. Diameter of rivet holes in { circ. seams 1 3/16" long. seams 1 3/16" Pitch of rivets { 3-5 1/2" 8 3/16"

Percentage of strength of circ. end seams { plate 66.9% rivets 44.7 Percentage of strength of circ. intermediate seam { plate 85.5 rivets 91.8

Percentage of strength of longitudinal joint { plate 85.5 rivets 91.8 combined 87.76

Thickness of butt straps { outer 7/8" inner 1" No. and Description of Furnaces in each Boiler 3 Deighton 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 back Steel Tensile strength { 26-30 Thickness { 1 3/16" 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 1/16" 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

Main stays: Material Steel Tensile strength 28-32

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

Screw stays: Material Steel Tensile strength 26-30

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



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Are the stays drilled at the outer ends *no.* 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. G. 3/8 - 5/16"* No. of threads per inch *9.*
Pitch of tubes *3 3/4" x 3 3/4"* Manhole compensation: Size of opening *20' 2" x 16' 2"* Section of compensating ring *6 3/4" x 1 1/8"* No. of rivets and diameter of rivet holes *36 - 1 3/16"*
shell plate *20' 2" x 16' 2"* Outer row rivet pitch at ends *8 3/16"* Depth of flange if manhole flanged *3 1/2"* 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 diameter
stays Inner radius of crown
How connected to shell Size of doubling plate under dome
of rivets in outer row in dome connection to shell Diameter of rivet holes and

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
tubes forgings and castings and after assembly in place Hydraulic test pressure
valves fitted to free the superheater from water where necessary Are drain cocks
Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with For and on behalf of
The foregoing is a correct description,
G. H. Riley DIRECTOR
1944 Sept. 8, 21, Oct. 5, 13, 25, Nov. 2, 9, 16, 21, 28,
Dec. 6, 14, 21, 1945 Jan. 12, 23, Feb. 1, 6.
Dates of Survey { During progress of work in shops - - - Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)
while building { During erection on board vessel - - - Total No. of visits *17*

Is this Boiler a duplicate of a previous case *Yes.* If so, state Vessel's name and Report No. *M'don Rpt. No 17673 - Empire*

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *This boiler has been constructed under Special Survey & in accordance with the Rule Requirements & approved plan. The materials & workmanship are good, & on completion the boiler was hydraulically tested to 320 lb/sq in & found satisfactory. This boiler is being dispatched to the Furness Shipbuilding Co. Ltd. - Harton Hill for Richardson (Westgarth's) Contract No 2752. This boiler has now been securely fitted on board & examined under working conditions & found satisfactory. On completion the SV's were adjusted under steam to 185 lb/sq in.*

Survey Fee ... £ *13 : 18 :* When applied for, *16 - 2 - 1945.*
SUPERVISION FEE ... £ *3 : 9 : 6* When received, *19*
Travelling Expenses (if any) £

L. Norman Stuart
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI. 13 JUL 1945*

Assigned

See Mdb for marks rpt. 1786