

## REPORT ON BOILERS.

No. 18394

Received at London Office

18 MAR 1943

Date of writing Report 17/3/1943 When handed in at Local Office

17/3/1943 Port of WEST HARTLEPOOL

No. in Survey held at WEST HARTLEPOOL

Date, First Survey 3rd November, 1942 Last Survey 8th March, 1943

on the Steel Single Screw H.M. Rescu. Eng "ALLEGIANCE"

(Number of Visits 13)

Gross  
Tons  
Net

Built at Selby By whom built Messrs. Cochrane &amp; Sons Ltd.

Yard No. 1263 When built 1943

Engines made at Hull

By whom made Messrs. L.D. Holmes &amp; Co.

Engine No. 1642 When made

Boilers made at West Hartlepool

By whom made Central Marine Engine Works

Boiler No. R359 When made 1943

Nominal Horse Power 222

Owners Admiralty

Port belonging to

MULTITUBULAR BOILERS—MAIN, ~~AUXILIARY~~ OR DONKEY.

Manufacturers of Steel Messrs. Colvilles Ltd. Glasgow.

(Letter for Record S.)

Total Heating Surface of Boilers 3550 sq

Is forced draught fitted Yes

Coal or Oil fired Oil.

No. and Description of Boilers 1 Single ended multitubular

Working Pressure 210 lbs

Tested by hydraulic pressure to 365 lbs

Date of test 10-3-43

No. of Certificate 3997

Can each boiler be worked separately

Area of Firegrate in each Boiler OIL FIRED.

No. and Description of safety valves to each boiler

Two ordinary spring loaded

Area of each set of valves per boiler

(per Rule 16.14)

Pressure to which they are adjusted 210 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

2 ft.

Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating

Open floor under boiler

Is the bottom of the boiler insulated

Largest internal dia. of boilers 17'-0"

Length 11'-6"

Shell plates: Material Steel

Tensile strength 31-35 tons

Thickness 1 1/2"

Are the shell plates welded or flanged No.

Description of riveting: circ. seams

D.R. LAP

long. seams T.R. Double Butts

Diameter of rivet holes in

(circ. seams 1 3/16")

(long. seams 1 1/2")

Pitch of rivets

3 3/16"

10 1/16"

Percentage of strength of circ. end seams

plate 62.2.

rivets 43.

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate 84.8

rivets 86.7.

combined 86.9.

Thickness of butt straps

(outer 1 1/8"

inner 1 1/4")

No. and Description of Furnaces in each Boiler

3 Corrugated Deighton section

Material Steel

Tensile strength 26-30 tons

Smallest outside diameter 4'-3 1/2"

Length of plain part

(top

bottom

Thickness of plates

(crown 3/4"

bottom 3/4"

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 tons

Thickness 1 3/16"

Pitch of stays 20 3/4" x 16"

How are stays secured

Double nuts and washers.

Tube plates: Material

(front Steel

back Steel

Tensile strength

26-30 tons

26-30 tons

Thickness

15 1/16"

29 3/32"

Mean pitch of stay tubes in nests

10 5/8" x 8 1/2"

Pitch across wide water spaces

13 1/2"

Girders to combustion chamber tops: Material Steel

Tensile strength

29-33 tons

Depth and thickness of girder

at centre 9 x 1 3/4" x 2 3/8"

length as per rule

2 1/8" x 3 1/2"

Distance apart

No. and pitch of stays

in each 3 @ 7 3/4"

Combustion chamber plates: Material Steel

Tensile strength 26-30 tons

Thickness: Sides 2 3/8"

Back 2 3/8"

Top 1 1/8"

Bottom 7/8"

Pitch of stays to ditto: Sides

10 x 8 1/2"

Back 9 1/2 x 8 1/2"

Top 9 3/4 x 7 3/4"

Are stays fitted with nuts or riveted over

nuts

Front plate at bottom: Material Steel

Tensile strength

26-30 tons

Thickness 15 1/16"

Lower back plate: Material Steel

Tensile strength

26-30 tons

Thickness 27 3/32"

Pitch of stays at wide water space

13 3/4" x 8 1/2"

Are stays fitted with nuts or riveted over

nuts

Main stays: Material Steel

Tensile strength

28-32 tons

Diameter

(At body of stay, 3 1/8"

Over threads

No. of threads per inch

6

Screw stays: Material Steel

Tensile strength

26-30 tons

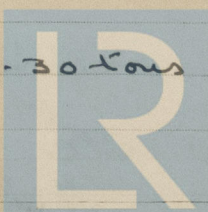
Diameter

(At turned off part, 1 3/4"

Over threads

No. of threads per inch

9



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Are the stays drilled at the outer ends Yes Margin stays: Diameter 2" At turned off part, or Over threads  
No. of threads per inch 9  
Tubes: Material L.W. IRON External diameter 3" Plain 3" Stay 3" Thickness 5/16" No. of threads per inch 9  
Pitch of tubes 4 1/4" x 4 1/4" Manhole compensation: Size of opening in shell plate 16 x 12 Section of compensating ring 3'-0" x 2'-4 1/2" x 1'-5 1/2" No. of rivets and diameter of rivet holes 32 @ 1 1/2"  
Outer row rivet pitch at ends 10 1/2" Depth of flange if manhole flanged 1 1/2" Steam Dome: Material Iron  
Tensile strength 5551 Thickness of shell 5/16" Description of longitudinal joint Butt  
Diameter of rivet holes 5/16" Pitch of rivets 1 1/2" Percentage of strength of joint 100%  
Internal diameter 2 1/2" Thickness of crown 5/16" No. and diameter of stays 12 @ 1 1/2"  
How connected to shell Butt Inner radius of crown 1 1/2"  
Size of doubling plate under dome 16 x 12 Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell 1 1/2"

Type of Superheater Horizontal Manufacturers of W. G. & Co. Ltd.  
Number of elements 1 Material of tubes Iron Internal diameter and thickness of tubes 3" x 5/16"  
Material of headers Iron Tensile strength 5551 Thickness 5/16" Can the superheater be shut off and the boiler be worked separately Yes  
Is a safety valve fitted to every part of the superheater which can be shut off from the boiler Yes  
Area of each safety valve 1 1/2" Are the safety valves fitted with easing gear Yes  
Pressure to which the safety valves are adjusted 210 lbs Hydraulic test pressure: 365 lbs  
tubes 5551 forgings and castings 5551 and after assembly in place 365 lbs  
Are drain cocks or valves fitted to free the superheater from water where necessary Yes

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with Yes

The foregoing is a correct description, FOR THE CENTRAL MARINE ENGINE WORKS

(W. G. & Co. Ltd.)

Manufacturer

Dates of Survey 1942 Nov 3-Dec 11 1943 Jan 8-18-25 Are the approved plans of boiler and superheater forwarded herewith Yes  
while building 15-17 March 1-2-3-5-6-8 (If not state date of approval.)  
Total No. of visits 13

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. R358 RAN 18380

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been constructed under special survey and in accordance with the approved plans for a working pressure of 210 lbs per square inch.

The materials and workmanship have been found good.

Upon completion the boiler was tested in the presence of the undersigned by a hydraulic pressure of 365 lbs per square inch, showed no signs of weakness and was found tight and sound in every respect at that pressure.

It has now been despatched to Hull for fitting on board.

The above boiler fitted on board HM Reconn Jug "ALLEGIANCE" at Hull, examined under steam, accumulation test held, safety valves adjusted as overleaf and afterwards examined on completion of all trials: found satisfactory. L.S.

Survey Fee ... £ 23 : 14 : 0 When applied for, 17/3/1943  
Travelling Expenses (if any) £ : : When received, 19

Arthur W. Oxford.  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 18 JUN 1943

Assigned see minute on  
Int. Rpt. 52030



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