

REPORT ON BOILERS.

No. 18330

14 SEP 1942

Received at London Office

of writing Report 11/9/1942 When handed in at Local Office

11/9/1942 Port of WEST HARTLEPOOL

in Survey held at WEST HARTLEPOOL

Date, First Survey 1942 January, 1942 Last Survey 29th August 1942

(Number of Visits 64) Tons { Gross 7031.21 Net 4915.74

on the STEEL SCREW STEAMER EMPIRE CLARION

at WEST HARTLEPOOL By whom built WM GRAY & CO LTD

Yard No. 1133. When built 1942.

nes made at WEST HARTLEPOOL

By whom made CENTRAL MARINE ENGINE WORKS

Engine No. 1133. When made 1942.

rs made at WEST HARTLEPOOL

By whom made CENTRAL MARINE ENGINE WORKS

Boiler No. 1133. When made 1942

inal Horse Power 510

Owners MINISTRY OF WAR TRANSPORT

Port belonging to WEST HARTLEPOOL

LTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

ufacturers of Steel

Messrs Solvilles, Ltd.

(Letter for Record 5.

7-1 Heating Surface of Boilers

7248 sq

Is forced draught fitted

Yes.

Coal or Oil fired Coal.

and Description of Boilers

3 single ended, multitubular

Working Pressure 220 lbs.

ed by hydraulic pressure to 380 lbs

Date of test 18.6.42 No. of Certificate 3910.

Can each boiler be worked separately Yes.

of Firegrate in each Boiler

54.84 sq

No. and Description of safety valves to each boiler 2 Bockburn's High Lift.

of each set of valves per boiler

per Rule 6.425 lb

as fitted 7.952 lb Pressure to which they are adjusted 220 lbs

Are they fitted with easing gear Yes.

1. use of donkey boilers, state whether steam from main boilers can enter the donkey boiler

llest distance between boilers or uptakes and bunkers or woodwork

21"

Is oil fuel carried in the double bottom under boilers No.

llest distance between shell of boiler and tank top plating

23 3/4"

Is the bottom of the boiler insulated Yes.

est internal dia. of boilers

15' 0 1/16"

Length 11' 6"

Shell plates: Material

Steel

Tensile strength 29-33 tons

ickness

1 15/32"

Are the shell plates welded or flanged

No.

Description of riveting: circ. seams

end D.R. LAP

seams TR DOUBLE BUTT STRAPS

Diameter of rivet holes in

circ. seams 1 1/2"

long. seams 1 1/2"

Pitch of rivets

4.07"

10 3/8"

centage of strength of circ. end seams

plate 63.1

rivets 46.8

Percentage of strength of circ. intermediate seam

plate

rivets

centage of strength of longitudinal joint

plate 85.5

rivets 86.2

combined 88.35

ickness of butt straps

1 1/4"

No. and Description of Furnaces in each Boiler 3 corrugated Dighton Section.

aterial

Steel

Tensile strength 26-30 tons

Smallest outside diameter 45 1/4"

th of plain part

top

bottom

Thickness of plates

1 1/16"

Description of longitudinal joint welded.

ensions of stiffening rings on furnace or c.c. bottom

plates in steam space: Material

Steel

Tensile strength 26-30 tons

Thickness 1 13/32"

Pitch of stays 21 x 20"

are stays secured

Double nuts

e plates: Material

front

back

Steel

Steel

Tensile strength

26-30 tons

Thickness

15/16"

25/32"

n pitch of stay tubes in nests

10 5/8" x 8 1/4"

Pitch across wide water spaces

14"

lers to combustion chamber tops: Material

Steel

Tensile strength 28-32 tons

Depth and thickness of girder

entre

10 1/2" x 1 3/8"

2-11/16" length as per Rule

2-9 1/32"

Distance apart

9 1/4"

No. and pitch of stays

ach

3 @ 8"

Combustion chamber plates: Material

Steel

ile strength

26-30 tons

Thickness: Sides

1 1/16"

Back

1 1/16"

Top

1 1/16"

Bottom

1 13/16"

h of stays to ditto: Sides

9 1/4" x 8"

Back

9 1/4" x 8"

Top

9 1/4" x 8"

Are stays fitted with nuts or riveted over No.

at plate at bottom: Material

Steel

Tensile strength

26-30 tons

ickness

15/16"

Lower back plate: Material

Steel

Tensile strength

26-30 tons

Thickness

27/32"

h of stays at wide water space

14" x 8"

Are stays fitted with nuts or riveted over

No.

n stays: Material

Steel

Tensile strength

28-32 tons

eter

At body of stay,

Over threads

3 1/2"

No. of threads per inch

6

w stays: Material

Steel

Tensile strength

26-30 tons

eter

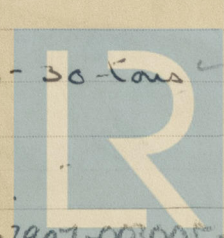
At turned off part,

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,} 1 3/8"
 No. of threads per inch 9.
 Tubes: Material HR. W. STEEL External diameter ^{Plain} 3" ^{Stay} 3" Thickness ^{8 W.G.} 5/16" + 3/8" No. of threads per inch 9.
 Pitch of tubes 4 1/4" x 4 1/8" Manhole compensation: Size of opening None
 shell plate None Section of compensating ring None No. of rivets and diameter of rivet holes None
 Outer row rivet pitch at ends None Depth of flange if manhole flanged None Steam Dome: Material None
 Tensile strength None Thickness of shell None Description of longitudinal joint None
 Diameter of rivet holes None Pitch of rivets None Percentage of strength of joint ^{Plate} None ^{Rivets} None
 Internal diameter None Thickness of crown None No. and diameter of stays None Inner radius of crown None
 How connected to shell None Size of doubling plate under dome None Diameter of rivet holes and of rivets in outer row in dome connection to shell None

Type of Superheater Superheater B. Manufacturers of ^{Tubes} None ^{Steel forgings} None ^{Steel castings} None
 Number of elements 47. Material of tubes None Internal diameter and thickness of tubes None
 Material of headers None Tensile strength None Thickness None Can the superheater be shut off the boiler be worked separately No. 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 1.767" Are the safety valves fitted with easing gear Yes.
 Pressure to which the safety valves are adjusted 230 lbs Hydraulic test pressure 660 lbs
 tubes None forgings and castings None and after assembly in place 660 lbs Are drain 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,
 THE CENTRAL MARINE ENGINE WORKS
 MAN. 1000 & Co. Ltd.

Dates of Survey ^{During progress of work in shops - -} None Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) Yes.
 while building ^{During erection on board vessel - -} None Total No. of visits None

Is this Boiler a duplicate of a previous case Yes. If so, state Vessel's name and Report No. S.S. "EMPIRE LIONEL" RPTN° 18307.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These boilers have been constructed under Special Survey and in accordance with the approved plans and specification for a working pressure of 220 lbs per square inch.
The materials and workmanship have been found good.
Upon completion the Boilers were tested in the presence of the undersigned by a hydraulic pressure of 380 lbs per square inch, showed no signs of weakness and were found tight and sound in every respect at that pressure.

Survey Fee ... £ : : When applied for, 19
 Travelling Expenses (if any) £ : : When received, 19

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

Committee's Minute FRL 18 SEP 1942
 Assigned See Hpl. J.C. 18330



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