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REPORT ON BOILERS.

MOB 17736

No. 17673.

Received at London Office

12 JUL 1944

Writing Report 7th July 1944 When handed in at Local Office 11th July 1944

Port of Middlesbrough.

Survey held at Stockton-on-Tees.

Date, First Survey 19th Nov. 1943Last Survey 3rd July 1944

on the S/S "EMPIRE PROTECTOR"

(Number of Visits 18)

Gross 8148

Tons Net 4609

at Hartlepool Hill-on-Tees

By whom built

Furness Shipbuilding Co. Ltd

Yard No. 360

When built 1944-10

dian es made at West Hartlepool

By whom made Richardson, Westgarth

Engine No. 2746

When made 1944

es made at Stockton-on-Tees.

By whom made Stockton C.E. & Riley Boilers Ltd.

Boiler No. 6825

When made 1944

al Horse Power

Owners Ministry of War Transport

Port belonging to Middlesbrough.

LITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

shut

facturers of Steel The Steel Co. of Scotland

(Letter for Record 5)

Heating Surface of Boilers

2080 sq

Is forced draught fitted

Yes.

Oil fired

nd Description of Boilers

1 S.E. Marine

Working Pressure 180 lb/sq

d by hydraulic pressure to 320 lb.

Date of test 3/7/44

No. of Certificate 7117

Can each boiler be worked separately

of Firegrate in each Boiler

No. and Description of safety valves to each boiler

2 1/4" Dimple Spring High Lift.

of each set of valves per boiler

per Rule 6.67

Pressure to which they are adjusted 185 lb.

Are they fitted with easing gear

Yes.

se of donkey boilers, state whether steam from main boilers can enter the donkey boiler

No.

est distance between boilers or uptakes and bunkers or woodwork

3'-6"

Is oil fuel carried in the double bottom under boilers

Yes.

est distance between shell of boiler and tank top plating

18"

Is the bottom of the boiler insulated

Yes.

st internal dia. of boilers

13' 3 1/16"

Length

11'-6"

Shell plates: Material

Steel

Tensile strength

29-33

ness

1 3/32"

Are the shell plates welded or flanged

No.

Description of riveting: circ. seams

end

D.R.

seams

TR. DBS.

Diameter of rivet holes in

circ. seams

1 3/16"

Pitch of rivets

3-59"

ntage of strength of circ. end seams

plate

66.9%

rivets

44.7%

Percentage of strength of circ. intermediate seam

plate

rivets

ntage of strength of longitudinal joint

plate

85.5%

rivets

91.85%

combined

87.36%

ness of butt straps

outer 7/8"

inner 1"

No. and Description of Furnaces in each Boiler

3 Dimple Corrugated

Material

Steel

Tensile strength

26-30

Smallest outside diameter

3'-1 1/4"

h of plain part

top

bottom

Thickness of plates

crown

1/2"

Description of longitudinal joint

Welded.

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

Yes.

plates in steam space: Material

Steel

Tensile strength

26-30

Thickness

1 5/32"

Pitch of stays 19" x 17 1/2"

are stays secured

Stays secured in back end. Staggered front end. Double lints & washers.

plates: Material

front

back

Steel

Tensile strength

26-30.

Thickness

1 3/16"

1/16"

pitch of stay tubes in nests

9 3/8"

Pitch across wide water spaces

13 1/2"

ers to combustion chamber tops: Material

Steel

Tensile strength

28-32

Depth and thickness of girder

ntre 8 3/8" - 2 @ 1 3/16"

Length as per Rule

2'-8"

Distance apart

10"

No. and pitch of stays

ch 2 - 10"

Combustion chamber plates: Material

Steel.

ile strength

26-30

Thickness: Sides

2 1/32"

Back

1 1/16"

Top

2 3/32"

Bottom 2 1/32"

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

margin stays luted each end.

then stays luted as's only.

t plate at bottom: Material

Steel

Tensile strength

26-30

tness

1 3/16"

Lower back plate: Material

Steel

Tensile strength

26-30

Thickness

2 7/32"

of stays at wide water space

15"

Are stays fitted with nuts or riveted over

nuts

stays: Material

Steel

Tensile strength

28-32

eter

At body of stay,

or

Over threads

2 7/8"

No. of threads per inch

6

v stays: Material

Steel

Tensile strength

26-30

eter

At turned off part,

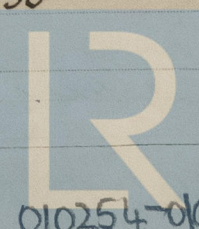
or

Over threads

1 3/4"

No. of threads per inch

9"



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Are the stays drilled at the outer ends 10. 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 lb. 9. 3/8" x 5/16" No. of threads per inch 9

Pitch of tubes 3 3/4" x 3 3/4" Manhole compensation: Size of opening 36 - 1 3/16"

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 house.

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 _____

How connected to shell _____ Inner radius of crown _____ Diameter of rivet holes and of rivets in outer row in dome connection to shell _____

Size of doubling plate under dome _____

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 _____ Hydraulic test pressure _____

tubes _____ forgings and castings _____ and after assembly in place _____

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 or and on behalf of

The foregoing is a correct description,

G. W. Riley Manufac

1943 Nov. 19, Dec. 1, 9, 30, 1944 Jan. 27, March 28, April 6, 19. Are the approved plans of boiler and superheater forwarded herewith 23/3

Dates of Survey { During progress of work in shops - - - } (If not state date of approval.)

while building { During erection on board vessel - - - }

Total No. of visits 18.

Is this Boiler a duplicate of a previous case Yes. If so, state Vessel's name and Report No. In' d'bro Report No. 17661.

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

This boiler has been constructed under Special Survey, & in accordance with the Rule Regulations & approved plan.

The materials & workmanship are good, & on completion the boiler was hydraulically tested to 320 lbs 10" & found satisfactory.

This boiler is being dispatched to the Tarmen Shipbuilding Co's yard at Harston Hill for Richardson's Westgarth's Contract No. 2746.

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 lbs 10"

Survey Fee £ 13 : 18 : ✓ When applied for, 11-7- 1944.

SUPERVISION FEE £ 3 : 9 : 6 When received, 19

Travelling Expenses (if any) £

G. W. Riley

Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute

Assigned

see minute on SERph



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