

REPORT ON BOILERS.

No. 17400

Received at London Office 15 SEP 1934

Date of writing Report

193

When handed in at Local Office

192

Port of

West Hartlepool

No. in Surrey held at
Reg. Book.

on the

Hartlepool

Date, First Survey

16 July

Last Survey

22 August 1934

(Number of Visits 8)

Gross

425

Tons

Net

160

Master

Built at

South Bank

By whom built

Smith's Dock Co. Ltd.

Yard No.

972

When built

1934

Engines made at

South Bank

By whom made

Smith's Dock Co. Ltd.

Engine No.

427

When made

1934

Boilers made at

Hartlepool

By whom made

Messrs Richardson Westgarth & Co. Ltd.

Boiler No.

D234

When made

1934

Nominal Horse Power

132.6

Owners

Victoria Fishing Co. Ltd.

Port belonging to

Hull

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

Manufacturers of Steel

The Steel Company of Scotland

(Letter for Record S.)

Total Heating Surface of Boilers

2,500 sq. ft.

Is forced draught fitted

No

Coal or Oil fired

Coal

No. and Description of Boilers

One, single ended.

Working Pressure 225 lbs.

Tested by hydraulic pressure to

384 lbs.

Date of test

18-8-34

No. of Certificate

3818

Can each boiler be worked separately

✓

Area of Firegrate in each Boiler

60 sq. ft.

No. and Description of safety valves to each boiler

Pair Cochburns Improved High lift

Area of each set of valves per boiler

per Rule 7.03 sq. ft.

as fitted

9.8 sq. ft.

Pressure to which they are adjusted

230 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

upstays and bunkers or woodwork

1' 0"

Is oil fuel carried in the double bottom under boilers

✓

Smallest distance between shell of boiler and tank top plating

✓

Is the bottom of the boiler insulated

Yes.

Largest internal dia. of boilers

15' 6"

Length

11' 0"

Shell plates: Material

Mild steel

Tensile strength

29-33 tons.

Thickness

1' 7/32"

Are the shell plates welded or flanged

✓

Description of riveting: circ. seams

end

D.R. Lap.

long, seams

T.R. D.B.S.

Diameter of rivet holes in

circ. seams

1' 7/16"

long, seams

1' 1/2"

Pitch of rivets

3' 7/8"

10' 1/8"

Percentage of strength of circ. end seams

plate

62.9

rivets

43.2

Percentage of strength of circ. intermediate seam

plate

✓

Percentage of strength of longitudinal joint

plate

85.18

rivets

84.4

combined

84.2

Working pressure of shell by Rules

225.8 lbs.

Thickness of butt straps

outer 1' 3/16"

inner 1' 5/16"

No. and Description of Furnaces in each Boiler

3, Morrison type

Material

Mild steel

Tensile strength

26-30 tons

Smallest outside diameter

3' 8 5/8"

Length of plain part

top

✓

Thickness of plates

crown

11' 1/16"

bottom

11' 1/16"

Description of longitudinal joint

Welded.

Dimensions of stiffening rings on furnace or circ. bottom

✓

Working pressure of furnace by Rules

225.8 lbs.

End plates in steam space: Material

Mild steel

Tensile strength

26-30 tons

Thickness

15' 1/16"

Pitch of stays

17 1/2" x 20"

How are stays secured

Double nuts & washers.

Working pressure by Rules

228 lbs.

Tube plates: Material

front Mild steel

back

Tensile strength

26-30 tons.

Thickness

1"

7/8" (wrip).

(21' 1/32" centre)

Mean pitch of stay tubes in nests

10' 1/16"

Pitch across wide water spaces

14 1/2" x 9 1/4"

Working pressure

front 234 lbs.

back 230 lbs.

Girders to combustion chamber tops: Material

Mild steel

Tensile strength

28-32 tons

Depth and thickness of girder

at centre

9 3/8" x 4 1/8"

Length as per Rule

34 1/32"

Distance apart

8" centre 9" wrip.

No. and pitch of stays

in each

3 x 8"

Working pressure by Rules

229 lbs.

Combustion chamber plates: Material

Mild steel

Tensile strength

26-30 tons.

Thickness: Sides

2 1/32"

Back

2 1/32"

Top

2 1/32" x 1 1/16"

Bottom

1"

Pitch of stays to ditto: Sides

8' 8" x 8"

Back

8' 8" x 8"

Top

8' 8" x 9' 8"

Are stays fitted with nuts or riveted over

Nuts

Working pressure by Rules

230 lbs. 234 lbs. 228 lbs.

Front plate at bottom: Material

Mild steel

Tensile strength

26-30 tons.

Thickness

1"

Lower back plate: Material

Mild steel

Tensile strength

26-30 tons

Thickness

15' 1/16"

Pitch of stays at wide water space

15 1/2" x 8"

Are stays fitted with nuts or riveted over

Nuts

Working Pressure

234 lbs.

Main stays: Material

Mild steel

Tensile strength

28-32 tons.

Diameter

At body of stay, or over threads

3 1/4" x 3"

No. of threads per inch

6

Area supported by each stay

350 sq. in. 297.5 sq. in.

Working pressure by Rules

229 lbs. & 226 lbs.

Screw stays: Material

Mild steel

Tensile strength

26-30 tons.

Diameter

At turned off part, or over threads

15/8"

No. of threads per inch

9

Area supported by each stay

65 sq. in.

Send Mob.

002536-002542-0027

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Working pressure by Rules 234 lbs. Are the stays drilled at the outer ends No. Margin stays: Diameter { At turned off part, 1 7/8" or Over threads }
No. of threads per inch 9 Area supported by each stay 90 sq ins Working pressure by Rules 236 lbs
Tubes: Material Solid drawn steel External diameter { Plain 3 1/2" Stay 3 1/2" Thickness { 7/16" 3/8" 5/16" No. of threads per inch 9 }
Pitch of tubes 4 3/4" x 4 5/8" Working pressure by Rules 260 lbs. Manhole compensation: Size of opening in shell plate 14" x 20 1/2" Section of compensating ring 36" x 32" x 1 7/32" No. of rivets and diameter of rivet holes 30 x 1 1/2"
Outer row rivet pitch at ends 10 1/8" Depth of flange if manhole flanged ✓ Steam Dome: Material Mild steel
Tensile strength 26-30 tons Thickness of shell 15/16" Description of longitudinal joint T.R. Lap.
Diameter of rivet holes 1 3/16" Pitch of rivets 4 1/4" Percentage of strength of joint { Plate 72 Rivets 73.4 }
Internal diameter 36" Working pressure by Rules 515 lbs. Thickness of crown 1" No. and diameter of stays ✓ Inner radius of crown 36" Working pressure by Rules 292 lbs.
How connected to shell Riveted Size of doubling plate under dome ✓ Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell 1 5/16" x 9.04"

Type of Superheater Smoke tube Manufacturers of Tubes The Superheater Co. Ltd. Manchester
Number of elements 49 Material of tubes Solid drawn steel Internal diameter and thickness of tubes 19 m/m. 3 m/m.
Material of headers Steel forgings Tensile strength ✓ Thickness 1" 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 1.76 sq Are the safety valves fitted with easing gear ✓ Working pressure as per Rules App. 225 lbs. Pressure to which the safety valves are adjusted 230 lbs. Hydraulic test pressure: tubes 1000 lbs per sq inch castings ✓ and after assembly in place 675 lbs. Are drain cocks or valves fitted to free the superheater from water where necessary ✓

Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with Yes.

The foregoing is a correct description,
For RICHARDSONS, WESTGARTE & Co. LIMITED,

Director & Secretary Manufacturer.

Dates { During progress of work in shops - - 1934 July 11. 19. 25. 30 Aug 3. 14. 18. 22 Are the approved plans of boiler and superheater forwarded herewith, no. (If not state date of approval.) 1/6/34. 4/6/34 }
while building { During erection on board vessel - - - }
Total No. of visits 288

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 225 lbs per square inch. The materials & workmanship have been found good and upon completion the Boiler was tested by hydraulic pressure of 387 lbs per square inch with satisfactory results.

The Boiler is to be dispatched to Middlesbrough for fitting on board the vessel.

This boiler has been securely fitted aboard and its safety valves adjusted under steam.

P. J. McA.

Survey Fee £ 16 : 12 : 0

Travelling Expenses (if any) £

When applied for, 14-9-1934

When received, 21-11-1934

J. Brooke Smith

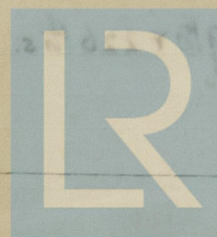
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 26 OCT 1934

Assigned

See Indb. J.E. 15225



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