

REPORT ON BOILERS.

No. 17668

Received at London Office

APR 22 1937

Date of writing Report 19-4-1937 When handed in at Local Office 21-4-1937 Port of West Hartlepool

No. in Survey held at Reg. Book.

Hartlepool

Date, First Survey

8-2-37

Last Survey

10-4-

1937

(Number of Visits

15)

Gross

534

Tons

Net

197

Master

Built at

South Bank

By whom built

Smiths Dock Co Ltd

Yard No.

1026

When built

1937

Engines made at

South Bank

By whom made

Smiths Dock Co Ltd

Engine No.

491

When made

1937

Boilers made at

Hartlepool

By whom made

Richardsons Westgarth & Co Ltd

Boiler No.

491

When made

1937

Nominal Horse Power

Owners

The Caledonian Fishing Co Ltd

Port belonging to

Hull

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

Manufacturers of Steel

Steel company of Scotland

(Letter for Record

S)

Total Heating Surface of Boilers

2688 sq ft.

Is forced draught fitted

Coal or Oil fired

No. and Description of Boilers

One single ended, cylindrical multitubular

Working Pressure

225 lbs

Tested by hydraulic pressure to

388 lbs

Date of test

10-4-37

No. of Certificate

3862

Can each boiler be worked separately

Area of Firegrate in each Boiler

62 1/2 sq ft.

No. and Description of safety valves to each boiler

Pair Cockburns Improved High Lift

Area of each set of valves per boiler

per Rule

7.04

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

on uptakes and bunkers on 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

16' 1"

Length

11' 0"

Shell plates: Material

steel

Tensile strength

29-33 tons

Thickness

1 1/32

Are the shell plates welded or flanged

Yes

Description of riveting: circ. seams

end

lap joint

D.R.

long. seams

D.B.S. Triple riveted

Diameter of rivet holes in

circ. seams

1 1/2

long. seams

1 5/8

Pitch of rivets

4"

11"

Percentage of strength of circ. end seams

plate

62.5

rivets

43.9

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate

85.22

rivets

87

combined

87.9

Working pressure of shell by Rules

227 lbs

Thickness of butt straps

outer

1 7/32

inner

1 1/32

No. and Description of Furnaces in each Boiler

3. Morrison type

Material

steel

Tensile strength

26-30 tons

Smallest outside diameter

3' 10 1/16"

Length of plain part

top

bottom

Thickness of plates

crown

23/32

bottom

Description of longitudinal joint

welded.

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

Working pressure of furnace by Rules

226 lbs

End plates in steam space: Material

steel

Tensile strength

26-30 tons

Thickness

1 3/8"

Pitch of stays

20 1/2" x 19"

How are stays secured

Double nuts.

Working pressure by Rules

227 lbs

Tube plates: Material

front

steel

back

Tensile strength

26-30 tons

Thickness

7/8"

Mean pitch of stay tubes in nests

10 9/16"

Pitch across wide water spaces

14 1/2"

Working pressure

front 233 lbs

back 239 lbs

Girders to combustion chamber tops: Material

steel

Tensile strength

28-32 tons

Depth and thickness of girder

at centre 9 3/8" two 7/8" plate

Length as per Rule

33 5/16"

Distance apart

9"

No. and pitch of stays

in each 3 stay. 8"

Working pressure by Rules

229 lbs

Combustion chamber plates: Material

steel

Tensile strength

26-30 tons

Thickness: Sides

2 1/32

Back

1 1/16"

Top

1 1/16"

Bottom

1"

Pitch of stays to ditto: Sides

8 1/8" x 8"

Back

8 1/4" x 8" wrap

Top

9" x 8"

Are stays fitted with nuts or riveted over

nuts.

Working pressure by Rules

228 lbs

Front plate at bottom: Material

steel

Tensile strength

26-30 tons

Thickness

1"

Lower back plate: Material

steel

Tensile strength

26-30 tons

Thickness

1"

Pitch of stays at wide water space

16" x 8"

Are stays fitted with nuts or riveted over

nuts.

Working Pressure

258 lbs

Main stays: Material

steel

Tensile strength

28-32 tons

Diameter

At body of stay,

3 1/2"

Over threads

3 1/4"

No. of threads per inch

6

Area supported by each stay

20 1/2" x 19"

19" x 18 1/4"

Working pressure by Rules

232 lbs

Screw stays: Material

steel

Tensile strength

26-30 tons

Diameter

At turned off part,

1 3/4"

Over threads

1 5/8"

No. of threads per inch

9

Area supported by each stay

72 sq ins.

65 sq ins

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. 1 7/8"

No. of threads per inch 9. Area supported by each stay 92 sq ins. Working pressure by Rules 231 lbs.

Tubes: Material Iron lap welded External diameter { Plain 3 1/2" Thickness { 7 w. 9
Stay 3 1/2" 7/16, 3/8, 5/16" No. of threads per inch 9

Pitch of tubes 4 5/8" x 4 3/4" Working pressure by Rules 260 lbs. Manhole compensation: Size of opening in
shell plate 20 1/2" x 14" Section of compensating ring 36" x 32" x 1 19/32" No. of rivets and diameter of rivet holes 30. 1 1/2 dia.

Outer row rivet pitch at ends 11" Depth of flange if manhole flanged 3 1/2" Steam Dome: Material steel

Tensile strength 26-30 tons. Thickness of shell 1 5/16" Description of longitudinal joint S. R. Lap joint.

Diameter of rivet holes 1 3/16" Pitch of rivets 4 1/4" Percentage of strength of joint { Plate 72.05.
Rivets 73.7.

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 collar. Size of doubling plate under dome for manhole 36 x 32 x 1 19/32" Diameter of rivet holes and pitch
of rivets in outer row in dome connection to shell 1 5/16" x 9.07"

Type of Superheater Smoke tube Manufacturers of { Tubes The Superheater Co. Ltd.
Steel forgings
Steel castings

Number of elements 57 Material of tubes steel Internal diameter and thickness of tubes 20 mm. 2 1/2 mm.

Material of headers steel Tensile strength X Thickness 1 3/8" 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 1.76 sq Are the safety valves fitted with easing gear Yes Working pressure as per
Rules Opp. 225 lbs. Pressure to which the safety valves are adjusted 230 lbs. Hydraulic test pressure:
tubes X forgings and castings X and after assembly in place 675 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 **RICHARDSONS, WESTGARTH & Co. LIMITED,**
DSSSall- *Manufacturers.*

Dates of Survey { During progress of work in shops - - { 1931 Feb 8-10-16-19-25. Mar 1-7-15-17-19-24-31 April 5-8-10 } Are the approved plans of boiler and superheater forwarded herewith 25-11-36. 24-12-36. DIRECTOR No.
 while building { During erection on board vessel - - - } Total No. of visits 15

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

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

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 plan for a working pressure of 225 lbs per sq inch. The materials and workmanship have been found good.

Upon completion the Boiler was tested, in the presence of the undersigned, with hydraulic pressure 388 lbs per sq. inch, showed no signs of weakness and was found tight and sound in every respect at that pressure.

The Boiler has now been dispatched to the Middlesbrough district.

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

M. J. Ka
27. 4. 37

Survey Fee £17 : 18 : 0

Travelling Expenses (if any) £ : :

When applied for, 21-47 1937

When received, 10-5- 1957

5- 1037 *Map*
J. Brooke Smith

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI 28 MAY 1937

Assigned

Dec. nat. 2E 15997

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Foundation