

REPORT ON BOILERS

Std. No. 28788

Mole No. 11666

FRI. AUG. 17 1923

Received at London Office

THU. NOV. 10 1924

Date of writing Report

192

When handed in at Local Office 16.8.23 192

Port of Middlesbrough

No. in Survey held at

Stockton-on-Tees

Date, First Survey 6th April

Last Survey 19th July 1923

on the

S/S "KILDALE"

(Number of Visits)

Gross 3877

Net 2316

Master

Built at

Sunderland

By whom built

Wm. Pickersgill & Sons Ltd

Yard No. 206

When built 1924

Engines made at

Hartlepool

By whom made

Richardsons, Westgarth

Engine No. 2640

When made 1924

Boilers made at

Stockton-on-Tees

By whom made

Messrs Thos. Sudron & Co Ltd

Boiler No. 4751

When made 1923

Nominal Horse Power

Owners

Rawland & Marwood S.S. Co Ltd

Port belonging to

Whitby

MULTITUBULAR BOILERS - MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Messrs John Spencer & Sons Ltd.

(Letter for Record (S) ✓)

Total Heating Surface of Boilers

980 ft² ✓

Is forced draught fitted

No ✓

Coal or Oil fired

Coal ✓

No. and Description of Boilers

One single ended

Working Pressure

180 ✓

Tested by hydraulic pressure to

320 ✓

Date of test

19-7-23

No. of Certificate

6324

Can each boiler be worked separately

✓

Area of Firegrate in each Boiler

33 1/2 ft² ✓

No. and Description of safety valves to each boiler

Two spring valves ✓

Area of each set of valves per boiler

per Rule

6.17 ✓

as fitted

11.84 ✓

Pressure to which they are adjusted

180 lb ✓

Are they fitted with easing gear

YES

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

No.

Smallest distance between boilers or uptakes and bunkers or woodwork

No bunkers in way ✓

Is oil fuel carried in the double bottom under boilers

✓

Smallest distance between shell of boiler and tank top plating

Boiler on upper deck ✓

Is the bottom of the boiler insulated

NO.

Largest internal dia. of boilers

10' - 4 5/16" ✓

Length

10' - 6" (ext) ✓

Shell plates: Material

Steel ✓

Tensile strength

29 - 33 ✓

Thickness

27/32 ✓

Are the shell plates welded or flanged

No ✓

Description of riveting: circ. seams

end

Abt Riv Lap ✓

Long. seams

23-3 Row 5 Rivts ✓

Diameter of rivet holes in

circ. seams

15/16" ✓

long. seams

15/16" ✓

Pitch of rivets

3 3/8" ✓

6 5/8" ✓

Percentage of strength of circ. end seams

plate

70.0

rivets

42.0

Percentage of strength of circ. intermediate seam

plate

✓

rivets

Percentage of strength of longitudinal joint

plate

85.85

rivets

91.6

combined

90.0

Working pressure of shell by Rules

182 lb.

Thickness of butt straps

outer

14 5/8 x 3/4 ✓

inner

14 5/8 x 3/8 ✓

No. and Description of Furnaces in each Boiler

Two plain ✓

Material

Steel ✓

Tensile strength

26 - 30 ✓

Smallest outside diameter

38" ✓

Length of plain part

top

83" ✓

bottom

110" ✓

Thickness of plates

crown

25/32 ✓

bottom

25/32 ✓

Description of longitudinal joint

Weld ✓

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

none ✓

Working pressure of furnace by Rules

197

End plates in steam space: Material

Steel ✓

Tensile strength

26 - 30 ✓

Thickness

29/32 ✓

Pitch of stays

14 1/2 x 15" ✓

How are stays secured

Nuts and 8" x 5/8 washers ✓

Working pressure by Rules

193

Tube plates: Material

front

Steel ✓

back

Steel ✓

Tensile strength

26 - 30 ✓

26 - 30 ✓

Thickness

29/32 ✓

3/4 ✓

Mean pitch of stay tubes in nests

10 3/8" ✓

Pitch across wide water spaces

14" x 9" ✓

Working pressure

front

191

back

187

Orders to combustion chamber tops: Material

Steel ✓

Tensile strength

28 - 32 ✓

Depth and thickness of girder

centre

7" x 1 1/2" ✓

Length as per Rule

27 25/32 ✓

Distance apart

7 1/2" ✓

No. and pitch of stays

each

2 @ 8 1/2" ✓

Working pressure by Rules

187 lb ✓

Combustion chamber plates: Material

Steel ✓

Tensile strength

26 - 30 ✓

Thickness: Sides

2 1/32" ✓

Back

2 1/32" ✓

Top

2 1/32" ✓

Bottom

1" ✓

Pitch of stays to ditto: Sides

9 1/4 x 8 1/2" ✓

Back

8 1/2" x 9" ✓

Top

7 1/4 x 8 1/2" ✓

Are stays fitted with nuts or riveted over

nuts ✓

Working pressure by Rules

190

Front plate at bottom: Material

Steel ✓

Tensile strength

26 - 30 ✓

Thickness

29/32" ✓

Lower back plate: Material

Steel ✓

Tensile strength

26 - 30 ✓

Thickness

29/32" ✓

Pitch of stays at wide water space

14" x 9" ✓

Are stays fitted with nuts or riveted over

nuts ✓

Working Pressure

244

Main stays: Material

Steel ✓

Tensile strength

28 - 32 ✓

Diameter

At body of stay,

or

Over threads

2 1/2 x 2 1/2 ✓

No. of threads per inch

6 ✓

Area supported by each stay

188 x 210

Working pressure by Rules

184 + 197

Screw stays: Material

Steel ✓

Tensile strength

26 - 30

Diameter

At turned off part,

or

Over threads

1 5/8 ✓

No. of threads per inch

9 ✓

Area supported by each stay

76.5 x 85

Working Pressure

244

Main stays: Material

Steel ✓

Tensile strength

28 - 32 ✓

Diameter

At body of stay,

or

Over threads

2 1/2 x 2 1/2 ✓

No. of threads per inch

6 ✓

Area supported by each stay

188 x 210

Working pressure by Rules

184 + 197

Screw stays: Material

Steel ✓

Tensile strength

26 - 30

Diameter

At turned off part,

or

Over threads

1 5/8 ✓

No. of threads per inch

9 ✓

Area supported by each stay

76.5 x 85

Diameter

At turned off part,

or

Over threads

1 5/8 ✓

No. of threads per inch

9 ✓

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76.5 x 85

Working Pressure

244

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Steel ✓

Tensile strength

28 - 32 ✓

Diameter

At body of stay,

or

Over threads

2 1/2 x 2 1/2 ✓

No. of threads per inch

6 ✓

Area supported by each stay

188 x 210

Working pressure by Rules

184 + 197

Screw stays: Material

Steel ✓

Tensile strength

26 - 30

Diameter

At turned off part,

or

Over threads

1 5/8 ✓

No. of threads per inch

9 ✓

Area supported by each stay

76.5 x 85

Working pressure by Rules 198 + 180 the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, 1 3/4"
or
Over threads 1 3/4"
No. of threads per inch 9 Area supported by each stay 101.25 Working pressure by Rules 180
Tubes: Material iron External diameter { Plain 3 1/2
Stay 3 1/2 Thickness { 3/8: 5/16 + 1/4
Nº 9 - W. G. No. of threads per inch 9
Pitch of tubes 4 1/2" x 4 1/2" Working pressure by Rules 204 + 180 Manhole compensation: Size of opening in
shell plate 16" x 12" Section of compensating ring 5 1/2" x 1 1/2" No. of rivets and diameter of rivet holes 32 @ 1 1/2"
Outer row rivet pitch at ends 6 1/8" Depth of flange if manhole flanged ✓ Steam Dome: Material iron
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 Working pressure by Rules Thickness of crown No. and diameter of
stays Inner radius of crown Working pressure by Rules
How connected to shell Size of doubling plate under dome Diameter of rivet holes and pitch
of rivets in outer row in dome connection to shell

Type of Superheater Manufacturers of { Tubes
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 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 Are the safety valves fitted with easing gear Working pressure as per
Rules Pressure to which the safety valves are adjusted Hydraulic test pressure:
tubes, castings and after assembly in place 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

The foregoing is a correct description,
THOMAS SUDRON & CO. LIMITED
Manufacturer.

Dates of Survey { During progress of work in shops - - 1923 April 6-13 May 14-25 June 1-10 21-27 July 2-10
while building { During erection on board vessel - - -
Are the approved plans of boiler and superheater forwarded herewith yes
(If not state date of approval.)
Total No. of visits 10

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been built under special survey: is of good material and workmanship and on completion was tested by hydraulic pressure with satisfactory results

This boiler has now been fitted, and fixed on board in a satisfactory manner, examined under steam and safety valves adjusted
L. H. H. H. H.

Survey Fee ... £ 6 : 10 : 6 When applied for, monthly 192 af
Travelling Expenses (if any) £ ✓ : : When received, 192

Wm Morrison & C. E. Wilkes
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 15 APR. 1924

Assigned



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Foundation