

REPORT ON BOILERS.

No. 12589

Received at London Office

23 FEB 1926

Date of writing Report

19-2-26

When handed in at Local Office

19-2-26

Port of

Middlesbrough

No. in
Book.

Survey held at

Stockton "S/S. MORVAT"

Date, First Survey

27. Nov. 25

Last Survey

19-2-1926

on the

Single End Steamer for Chas Hill & Sons Ltd. Bristol

Number of Visits

13

Gross Tons

231

Net Tons

80

Boiler

Built at

Bristol

By whom built

Chas Hill & Sons

Yard No.

158

When built

1926

Engines made at

Brinscombe

By whom made

Atkins, Murchison & Co

Engine No.

1440

When made

1918

Boiler made at

Stockton

By whom made

Messrs Riley Bros. Ltd

Boiler No.

5846

When made

1926

Indicated Horse Power

39

Owners

Chas Hill & Sons

Port belonging to

Bristol

ULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

David Colville & Sons Ltd & South Durham S & Son Coy

Letter for Record

S

Total Heating Surface of Boilers

865 sq ft

Is forced draught fitted

No

Coal or Oil fired

Coal

No. and Description of Boilers

One Single End

Working Pressure

180 lbs

Tested by hydraulic pressure to

320 lbs

Date of test

19-2-26

No. of Certificate

6502

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

33.54

No. and Description of safety valves to each boiler

Two spring loaded

Area of each set of valves per boiler

per Rule 5.1
as fitted 1.2

Pressure to which they are adjusted

185

Are they fitted with easing gear

Yes

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

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

12"

Is oil fuel carried in the double bottom under boilers

No

Smallest distance between shell of boiler and tank top plating

Yes

Is the bottom of the boiler insulated

No

Largest internal dia. of boilers

9'-8"

Length

10'-0"

Shell plates: Material

Steel

Tensile strength

28-32 tons

Thickness

13/16"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end

LAP. OR.

g. seams

Double butt straps
Tubular riveted
5 Rivets in Pitch

Diameter of rivet holes in

circ. seams 1 1/16"

Pitch of rivets

3/8" & 6 1/4"

Percentage of strength of circ. end seams

plate 66.0
rivets 43.0

Percentage of strength of circ. intermediate seam

plate
rivets

Percentage of strength of longitudinal joint

plate 85.5
rivets 100.6
combined 91.22

Working pressure of shell by Rules

180 lbs

Thickness of butt straps

outer 14" x 5/8"
inner 14" x 3/4"

No. and Description of Furnaces in each Boiler

Two Plain

Material

Steel

Tensile strength

26-30 tons

Smallest outside diameter

38"

Length of plain part

top 18.59
bottom 163.5

Thickness of plates

top 3/4"
bottom 3/4"

Description of longitudinal joint

weld

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

Working pressure of furnace by Rules

180 lbs

End plates in steam space: Material

Steel

Tensile strength

26-30 tons

Thickness

3/32"

Pitch of stays

16" (15 1/4" tubes)

How are stays secured

Double nuts and loose washers

Working pressure by Rules

183 lbs

End plates: Material

front Steel
back Steel

Tensile strength

26-30 tons

Thickness

3/32"

29/32"

Angle pitch of stay tubes in nests

9.32"

Pitch across wide water spaces

13" x 8"

Working pressure

front 200 lbs
back 193 lbs

Ends to combustion chamber tops: Material

Steel

Tensile strength

28-32 tons

Depth and thickness of girder

Centre

7" x 1 1/4"

Length as per Rule

26"

Distance apart

8"

No. and pitch of stays

Each

2 at 8"

Working pressure by Rules

193 lbs

Combustion chamber plates: Material

Steel

Tensile strength

26-30 tons

Thickness: Sides

5/8"

Back

1 1/16"

Top

5/8"

Bottom

3/32"

Pitch of stays to ditto: Sides

8" x 8 3/4"

Back

10" x 8 1/2"

Top

8" x 8"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

191 lbs

Front plate at bottom: Material

Steel

Tensile strength

26-30 tons

Thickness

3/32"

Lower back plate: Material

Steel

Tensile strength

26-30 tons

Thickness

3/32"

Pitch of stays at wide water space

13" x 8 1/2"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

320 lbs

Main stays: Material

Steel

Tensile strength

28-32 tons

At body of stay,

2 3/4"

No. of threads per inch

6

Area supported by each stay

304 sq in

Over threads

2 3/4"

No. of threads per inch

6

Area supported by each stay

304 sq in

Working pressure by Rules

181 lbs

Screw stays: Material

Steel

Tensile strength

26-30 tons

At turned off part,

1 1/2"

No. of threads per inch

9

Area supported by each stay

70 sq in

Over threads

1 1/2"

No. of threads per inch

9

Area supported by each stay

70 sq in

Working pressure by Rules 180 lbs Are 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 93.5 sq" Working pressure by Rules 194 lbs
Tubes: Material iron External diameter { Plain 3" Thickness { 9 W.B. No. of threads per inch 9
Stay 3" Pitch of tubes 4" x 4 1/16" Working pressure by Rules 234 lbs & 190 lbs Manhole compensation: Size of opening
shell plate 16" x 20" Section of compensating ring 7 1/2" x 1" No. of rivets and diameter of rivet holes 40 - 1 1/16"
Outer row rivet pitch at ends 7 1/2" Depth of flange if manhole flanged ✓ Steam Dome: Material ✓
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
stays Inner radius of crown Working pressure by Rules
How connected to shell Size of doubling plate under dome Diameter of rivet holes and
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
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
Rules Pressure to which the safety valves are adjusted Hydraulic test press
tubes, castings and after assembly in place Are drain cocks or valves
to free the superheater from water where necessary

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

RILEY BROS. (BOILERMAKERS) LIMITED,
The foregoing is a correct description,

J. H. Shields Secretary, Manufact

Dates of Survey { During progress of work in shops - - - 1925 Nov. 27, Dec. 5, 18, 24, 31, Jan. 7, 14
while building { During erection on board vessel - - - 20, 29 Feb. 5, 12, 16, 19 1926
Total No. of visits 13

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

This boiler has been constructed under Special Survey: is of good material and workmanship and on completion was tested by hydraulic pressure with satisfactory results.
It has now been fitted & secured on board Messrs Chas Hill & Son No 158 (1/16 Morris) & is now under steam

Survey Fee ... £ 5 : 16 : - When applied for, 192
Travelling Expenses (if any) £ : : When received, 192

Monthly Account

John L. Cymmer & W. H. Roberts
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute

FRI. 18 AUG 1926

Assigned

See Pres. J. E. M. No 11746



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Foundation