

## REPORT ON BOILERS.

No. 10291.

Date of writing Report

191

When handed in at Local Office

1.2.19

Received at London Office

TUE FEB. 4 - 1919

No. in Survey held at  
Reg. Book.Stockton-on-Tees  
S. HaussonaPort of Middlesbrough  
Date, First Survey 31<sup>st</sup> Oct/17. Last Survey 19<sup>th</sup> Jan/19

(Number of Visits 19)

Gross  
Tons  
Net

Master

Built at

By whom built

Engines made at

Gl. Yarmouth

By whom made

Wm Burrell &amp; Co

When built

Boilers made at

Stockton

By whom made

Thos Riley Bros Ltd (No 5074)

When made

Registered Horse Power

Owners

When made

Port belonging to

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

Manufacturers of Steel

Thos J. Spencer &amp; Sons

(Letter for record

(5)

Total Heating Surface of Boilers

852  $\text{sq ft}$ 

Is forced draft fitted

No. and Description of

Boilers

One single ended

Working Pressure

180

Tested by hydraulic pressure to

360

Date of test 22.1.19

No. of Certificate

5961

Can each boiler be worked separately

Area of fire grate in each boiler

28  $\frac{3}{4}$   $\text{sq ft}$ 

No. and Description of

safety valves to each boiler

2 direct spring

Area of each valve

3.98  $\text{sq in}$  Pressure to which they are adjusted

Are they fitted with easing gear

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

Smallest distance between boilers or uptakes and bunkers or woodwork

Inside

Mean dia. of boilers

10'-0"

Length

9'-6"

Material of shell plates

Steel

Thickness

27/32

Range of tensile strength

28-32

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

2 R. lap

long. seams

2 13-3 Riv

Diameter of rivet holes in long. seams

15/16

Pitch of rivets

7"

Lap of plates or width of butt straps

13  $\frac{1}{2}$  x 13

Per centages of strength of longitudinal joint

rivets 87.5

plate 86.57

Working pressure of shell by

rules

182

Size of manhole in shell

17 x 13

In. hole + diam

Size of compensating ring

48 x 5/16

No. and Description of Furnaces in each

2

Description of

boiler

2 plain

Material

steel

Outside diameter

36"

Length of plain part

top 70  $\frac{7}{8}$ 

Thickness of plates

crown 27/32

bottom 25/32

Description of longitudinal joint

weld

No. of strengthening rings

none

Working pressure of furnace by the rules

187

Combustion chamber

plates: Material

Steel

Thickness: Sides

21/32

Back

5/8"

Top

21/32

Bottom

13/16

Pitch of stays to ditto: Sides

10  $\frac{1}{4}$  x 7  $\frac{1}{2}$ 

Back

8 x 8

Top 10  $\frac{1}{4}$  x 7  $\frac{1}{2}$  If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

184

Material of stays

steel

Area at

smallest part

1.73

Area supported by each stay

76.88

Working pressure by rules

180

End plates in steam space: Material

steel

Thickness

1  $\frac{1}{2}$ 

Pitch of stays

19  $\frac{1}{2}$  x 13

How are stays secured

nuts + washers

Working pressure by rules

190

Material of stays

steel

Area at smallest part

5.06

Area supported by each stay

241

Working pressure by rules

218

Material of Front plates at bottom

steel

Thickness

1  $\frac{1}{2}$ 

Material of

Lower back plate

Steel

Thickness

1  $\frac{1}{2}$ 

Greatest pitch of stays

13 x 8  $\frac{1}{4}$ 

Working pressure of plate by rules

299

Diameter of tubes

3  $\frac{1}{4}$ "

Pitch of tubes

4  $\frac{3}{8}$  x 4  $\frac{1}{4}$ 

Material of tube plates

steel

Thickness: Front

1  $\frac{1}{2}$ 

Back

3/4"

Mean pitch of stays

10"

Pitch across wide

water spaces

14

Working pressures by rules

194

Girders to Chamber tops: Material

steel

Depth and thickness of

girder at centre

7  $\frac{1}{4}$  x 1  $\frac{1}{2}$ "

Length as per rule

25

Distance apart

10  $\frac{1}{4}$ "

Number and pitch of Stays in each

20

7  $\frac{1}{2}$ "

Working pressure by rules

187

Steam dome: description of joint to shell

2 Riveted flange

% of strength of joint

84.3

Diameter

2'-6"

Thickness of shell plates

7/8"

Material

steel

Description of longitudinal joint

S. lap

Diam. of rivet holes

1  $\frac{1}{2}$ "

Pitch of rivets

2"

Working pressure of shell by rules

180

Crown plates

steel

Thickness

3/4"

How stayed

Dished 30" Rad

## SUPERHEATER.

Type none

Date of Approval of Plan

Tested by Hydraulic Pressure to

Date of Test

Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

Diameter of Safety Valve

Pressure to which each is adjusted

Is Easing Gear fitted

SURVEY REQUEST

NO. 1372

FOR THE FURNISHING OF BOILERS AND SUPERHEATERS LIMITED

The foregoing is a true and correct copy of the plan of the boiler as approved by the Surveyor General.

Dates During progress of work in shops - 1917 Oct 31, Nov 2, Dec 14, 20, 1918 Jan 16, Aug 26, Oct 24, Nov 4, 6, 13, 21, 28, Dec 11

while During erection on board vessel - 18, 28, 1919 Jan 13, 17, 22, 24

Is the approved plan of boiler forwarded herewith

yes

Total No. of visits

19

Return for duplicate Boiler

RETURNED

6-2-1919

## GENERAL REMARKS

(State quality of workmanship, opinions as to class, &amp;c.)

This boiler has been built under

special survey in accordance with the Rules: is of good material and workmanship and on completion was tested by hydraulic pressure with satisfactory results

The boiler was satisfactory fitted on board. Please see details in General Report

No 8357 sent here with

Sketches

Survey Fee

£ 3-0-0

When applied for

Monthly APC

Travelling Expenses (if any)

When received

191

Committee's Minute

signed

TUE. MAR. 28 1919

Wm Morrison

Engineer Surveyor to Lloyd's Register of Shipping

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