

# REPORT ON BOILERS.

Sld. No 28960  
 No. 12124  
 -2 DEC 1924  
 25 OCT 1924

Received at London Office

Date of writing Report

192

When handed in at Local Office

23.10.24

Port of

Thiddellbrough

No. in Survey held at

Stockton-on-Tees

Date, First Survey

12<sup>th</sup> May

Last Survey

14<sup>th</sup> Decr 1924

g. Book.

on the

S. S. "Fylingdale" (new vessel)

(Number of Visits 18)

Gross 3918

Net 2322

aster

Built at Sunderland

By whom built J. L. Thompson & Son

Yard No. 553

When built 1924

meter engines made at

Sunderland

By whom made

Richardson Westfahl & Co

Engine No. 2189

When made 1924

boilers made at

Stockton

By whom made

Thos Hudson & Co Ltd

Boiler No. 4956

When made 1924

nominal Horse Power

Owners

Randall, Marwood & Co Ltd

Port belonging to

Whitley

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

See Sunderland wire 3/12/24.

Manufacturers of Steel

Messrs D. Colville & Sons Ltd

(Letter for Record (S) )

Total Heating Surface of Boilers

980  $\phi$

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

17.10.24

No. of Certificate

6403

Can each boiler be worked separately

Area of Firegrate in each Boiler

33 $\frac{1}{2}$   $\phi$

No. and Description of safety valves to each boiler

2 Direct spring

Area of each set of valves per boiler

per Rule

6.28

as fitted

7.96

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

5'0"

Is oil fuel carried in the double bottom under boilers

NO

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' - 5 $\frac{1}{2}$ "

Length

10' - 6"

Shell plates: Material

steel

Tensile strength

29-33

Thickness

27/32

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

inter.

end D. Riv. Lap

Long. seams

2 Butt - 3 Riveted

Diameter of rivet holes in

circ. seams

15

15

long. seams

15

Pitch of rivets

3 $\frac{1}{2}$

6 $\frac{1}{8}$

Percentage of strength of circ. end seams

plate

70.0

rivets

42.0

Percentage of strength of circ. intermediate seam

plate

85.55

rivets

91.6

Percentage of strength of longitudinal joint

plate

85.55

rivets

91.6

combined

90.0

Working pressure of shell by Rules

182 lb

Thickness of butt straps

outer 14 $\frac{1}{2}$  x 3/4

inner 14 $\frac{1}{2}$  x 7/8

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 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 $\frac{1}{2}$  x 15"

How are stays secured

nuts & 8 x 5/8 long washers

Working pressure by Rules

193 lb

Tube plates: Material

front steel

back steel

Tensile strength

26-30 tons

26-30 "

Thickness

29/32

3/4

Mean pitch of stay tubes in nests

10 $\frac{3}{8}$ "

Pitch across wide water spaces

14" x 9"

Working pressure

front 191

back 187

Girders to combustion chamber tops: Material

steel

Tensile strength

28-32 tons

Depth and thickness of girder

at centre

7 x 15"

Length as per Rule

27 25/32

Distance apart

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

No. and pitch of stays

in each

2 @ 8 $\frac{1}{2}$ "

Working pressure by Rules

187 lb

Combustion chamber plates: Material

steel

Tensile strength

26-30 tons

Thickness: Sides

21/32

Back

21/32

Top

21/32

Bottom

1"

Pitch of stays to ditto: Sides

9 $\frac{1}{2}$  x 8 $\frac{1}{2}$ "

Back

8 $\frac{1}{2}$  x 9"

Top

7 $\frac{1}{2}$  x 8 $\frac{1}{2}$ "

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

Over threads, 2 $\frac{1}{2}$  x 2 $\frac{1}{2}$ "

No. of threads per inch

6

Area supported by each stay

188 x 210

Working pressure by Rules

184 x 197

Screw stays: Material

steel

Tensile strength

26-30 tons

Diameter

At turned off part, 1 $\frac{1}{2}$ "

Over threads, 1 $\frac{1}{2}$ "

No. of threads per inch

9

Area supported by each stay

76.5 x 85"



Working pressure by Rules 178 x 180 Are the stays drilled at the outer ends no ✓ Margin stays: Diameter { At turned off part, 1 1/4" ✓  
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 1/4" ✓ Thickness 11/16 - 5/16 + 1/4" No. of threads per inch 9 ✓  
Pitch of tubes 4 1/2" x 4 1/2" ✓ Working pressure by Rules 204 x 180 Manhole compensation: Size of opening  
shell plate 16" x 12" ✓ Section of compensating ring 5 1/2" x 1 1/2" ✓ No. of rivets and diameter of rivet holes: 22 @ 1 1/2" ✓  
Outer row rivet pitch at ends 6 5/8" ✓ 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 \_\_\_\_\_  
Internal diameter \_\_\_\_\_ Working pressure by Rules \_\_\_\_\_ Thickness of crown \_\_\_\_\_ Rivets \_\_\_\_\_  
stays \_\_\_\_\_ Inner radius of crown \_\_\_\_\_ Working pressure by Rules \_\_\_\_\_ No. and diameter \_\_\_\_\_  
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 WHL Manufacturers of { Tubes \_\_\_\_\_  
Number of elements \_\_\_\_\_ Material of tubes \_\_\_\_\_ Steel castings \_\_\_\_\_  
Material of headers \_\_\_\_\_ Tensile strength \_\_\_\_\_ Internal diameter and thickness of tubes \_\_\_\_\_  
the boiler be worked separately \_\_\_\_\_ Thickness \_\_\_\_\_ Can the superheater be shut off \_\_\_\_\_  
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.**  
P. W. Johnston Manufacturer  
Are the approved plans of boiler and superheater forwarded to the Registrar (If not state date of approval.) yes  
Total No. of visits 18

**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 fired in the vessel in a satisfactory manner.  
hath

Survey Fee ... £ 6 : 10 : 6 } MONTHLY A/c.  
Travelling Expenses (if any) £ ✓ : : }  
When applied for, 192 —  
When received, 192 —

W. Morrison hath  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUES. 2 DEC 1924  
Assigned See Sld 36 28960