

REPORT ON BOILERS.

No. 83420

-7 NOV 1928

Received at London Office

25 OCT 1928

Date of writing Report 20 - 10 - 1928 When handed in at Local Office 23 - 10 - 1928 Port of

NEWCASTLE-ON-TYNE

No. in Survey held at
Book.

Hebburn

Date, First Survey

15 - 8 - 28

Last Survey

15 - 10 - 1928

(Number of Visits

9

Gross

275.25

Tons

Net

106.74.

on the

S.S. "FRANCIS GILBERTSON"

ster

Built at Aberdeen

By whom built Aberdeen

Yard No. 612

When built 1928

Engines made at

Aberdeen

By whom made

Alex. Hall & Co. Ltd

Engine No. 313

When made 1928

Boilers made at

Hebburn

By whom made

Palmers Co. Ltd

Boiler No. 1112

When made 1928

Indicated Horse Power

45

Owners

Great Western Railway Co.

Port belonging to

London.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Witkowitz Bergbau und Eisenhütten-Gesellschaft in Witkowitz

(Letter for Record S)

Total Heating Surface of Boilers

887

Is forced draught fitted

no

Coal or Oil fired

COAL

Name and Description of Boilers

ONE S.E. MULTITUBULAR

1 SB

Working Pressure

180 LBS.

Tested by hydraulic pressure to

320 LBS.

Date of test

12.10.28

No. of Certificate

307

Can each boiler be worked separately

Area of Firegrate in each Boiler

34

No. and Description of safety valves to each boiler

2 spring loaded

Area of each set of valves per boiler

per Rule

5.68

as fitted

6.28

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

Smallest distance between boilers or uptakes and bunkers or woodwork

9"

Is oil fuel carried in the double bottom under boilers

no

Smallest distance between shell of boiler and tank top plating

no tank

Is the bottom of the boiler insulated

no

Largest internal dia. of boilers

10' 6"

Length

10' 0"

Shell plates: Material

STEEL

Tensile strength

28 - 32 TONS

Thickness

7/8"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end D.R.L.

Long. seams

T.R.D.B.S.

Diameter of rivet holes in

circ. seams

1 1/16"

long. seams

15/16"

Pitch of rivets

3 1/2"

Percentage of strength of circ. end seams

plate 69.6%

ribs 51.1%

Percentage of strength of circ. intermediate seam

plate -

ribs -

Percentage of strength of longitudinal joint

plate 86.11%

ribs 89.8%

Working pressure of shell by Rules

181 LBS.

Thickness of butt straps

outer 7/8"

inner 7/8"

No. and Description of Furnaces in each Boiler

TWO DEIGHTON SECTION

Material

STEEL

Tensile strength

26 - 30 TONS

Smallest outside diameter

3' 0 1/16"

Length of plain part

top 10 1/2"

bottom 10 1/2"

Thickness of plates

crown 15/32"

bottom 15/32"

Description of longitudinal joint

WELD

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

Working pressure of furnace by Rules

184 LBS.

End plates in steam space: Material

STEEL

Tensile strength

26 - 30 TONS

Thickness

1 3/8" & 1"

Pitch of stays

20" x 13"

How are stays secured

DOUBLE NUTS & WASHERS

Working pressure by Rules

184 LBS.

End plates: Material

front STEEL

back "

Tensile strength

26 - 30 TONS

Thickness

1 3/8"

Can pitch of stay tubes in nests

9 1/2"

Pitch across wide water spaces

14"

Working pressure

front 409 LBS.

back 203 LBS.

Orders to combustion chamber tops: Material

STEEL

Tensile strength

28 - 32 TONS

Depth and thickness of girder

centre

8" x 1 1/2"

Length as per Rule

2 x 4 27/32"

Distance apart

9"

No. and pitch of stays

each

2 @ 8 1/4"

Working pressure by Rules

250 LBS.

Combustion chamber plates: Material

STEEL

Tensile strength

26 - 30 TONS

Thickness: Sides

5/8"

Back

2 1/32"

Top

5/8"

Bottom

7/8"

Pitch of stays to ditto: Sides

9" x 8 1/4"

Back

9" x 8 1/2"

Top

8 1/4" x 9"

Are stays fitted with nuts or riveted over

NUTS

Working pressure by Rules

196 LBS.

Front plate at bottom: Material

STEEL

Tensile strength

26 - 30 TONS

Thickness

1 1/32"

Lower back plate: Material

STEEL

Tensile strength

26 - 30 TONS

Thickness

1"

Pitch of stays at wide water space

d = 20"

Are stays fitted with nuts or riveted over

NUTS

Working Pressure

240 LBS.

Main stays: Material

STEEL

Tensile strength

28 - 32 TONS

Diameter

At body of stay, or Over threads

2 3/4"

No. of threads per inch

6

Area supported by each stay

260"

Working pressure by Rules

210 LBS.

Screw stays: Material

STEEL

Tensile strength

26 - 30 TONS

Diameter

At turned off part, or Over threads

1 5/8"

No. of threads per inch

9

Area supported by each stay

76.5"



Lloyd's Register Foundation

Working pressure by Rules 194 LBS^a Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part, or Over threads 1 7/8" No. of threads per inch 9 Area supported by each stay 111.6" Tubes: Material STEEL External diameter { Plain 3 1/2" Stay 3 1/2" Thickness { 8 WG 1/4" 5/16" Working pressure by Rules 189 LBS^a Pitch of tubes 4 3/4" x 4 3/4" Working pressure by Rules 215 LBS^a Manhole compensation: Size of opening shell plate 12" x 16" Section of compensating ring 2' 6" x 2' 2" x 7/8" No. of rivets and diameter of rivet holes 32 @ 15/16" Outer row rivet pitch at ends 6 3/4" 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 pressure 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 22 inclusive for boilers been complied with YES For The foregoing is a correct description, Palmyra Shipbuilding & Iron Co., Ltd. A. Cameron for Mgr

Dates of Survey { During progress of work in shops - - - 1928 Aug. 15. 28. Sep. 10. 20. Oct. 2. 5. 9. 12. 15 Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) while building { During erection on board vessel - - - Oct. 23. 26. 27. Total No. of visits 9. 4 3.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been built under Special Survey, the materials and workmanship are good.

The boiler has been properly secured in the vessel, examined under steam, & safety valves adjusted under steam as above.

Survey Fee £ 5 : 18 : 0 When applied for, 24 OCT 1928 Travelling Expenses (if any) £ 26. 11. 1928 When received, 26. 11. 1928 Thomas Napier Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute TUE. 13 NOV 1928 Assigned see Minute on Abn Rpt. 15394