

REPORT ON BOILERS.

No. 84968

Received at London Office 21 NOV 1929

Date of writing Report

192

When handed in at Local Office

19-11-

1929

Port of

NEWCASTLE-ON-TYNE

No. in Reg. Book

Survey held at

South Shields

Date, First Survey

9th May

Last Survey

13th November 1929

on the SS. GORJISTAN

(Number of Visits)

Gross 5888

Tons

Net 3710

Master

Built at South Shields

By whom built

John Reeshead & Sons Ltd.

Yard No. 498

When built 1929

Engines made at

South Shields

By whom made

John Reeshead & Sons Ltd.

Engine No. 498

When made 1929

Boilers made at

South Shields

By whom made

John Reeshead & Sons Ltd.

Boiler No. 498

When made 1929

Nominal Horse Power

787 combined

Owners

Strick Line (1923) Ltd.

Port belonging to

London.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

The Steel Company of Scotland Ltd.

(Letter for Record r.)

Total Heating Surface of Boilers

9756 sq. feet

Is forced draught fitted

Yes

Coal or Oil fired

Coal & Oil.

No. and Description of Boilers

Three S.E. Multitubular

Working Pressure 210 lbs.

Tested by hydraulic pressure to

365 lbs.

Date of test

23-8-29
12-9-29

No. of Certificate

386

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

69 sq. ft.

No. and Description of safety valves to each boiler

1 pair Grants' High Lift, spring loaded.

Area of each set of valves per boiler

per Rule 14.45

as fitted

15.34 sq. ft.

Pressure to which they are adjusted

210 lbs.

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

3'-6"

Is oil fuel carried in the double bottom under boilers

Yes

Smallest distance between shell of boiler and tank top plating

2'-3"

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

16'-3"

Length

12'-0"

Shell plates: Material

Steel

Tensile strength 29/33 Tons.

Thickness

1 1/2"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

D.R. lap

long, seams

T.R.D.B.S.

Diameter of rivet holes in

circ. seams

1 1/2"

Pitch of rivets

4 1/4"

Percentage of strength of circ. end seams

plate

64.7

rivets

45.6

Percentage of strength of circ. intermediate seam

plate

—

rivets

Percentage of strength of longitudinal joint

plate

85

rivets

87.6

combined

87.5

Working pressure of shell by Rules

212 lbs.

Thickness of butt straps

outer 1 3/16"

inner 1 5/16"

No. and Description of Furnaces in each Boiler

Four Brighton Corrugated.

Material

Steel

Tensile strength

26/30 Tons

Smallest outside diameter

39"

Length of plain part

top

bottom

Thickness of plates

crown

5/8"

Description of longitudinal joint

Weld

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

None fitted

Working pressure of furnace by Rules

234 lbs.

End plates in steam space: Material

Steel

Tensile strength

26/30 Tons

Thickness

1 3/8"

Pitch of stays

22 1/2" x 21"

How are stays secured

Double nuts & loose washers. 12 1/2" dia. x 1"

Working pressure by Rules

212 lbs.

Tube plates: Material

front Steel

back Steel

Tensile strength

26/30 Tons

Thickness

7/8" plate & 1/16" doubler

13/16"

Mean pitch of stay tubes in nests

8 1/2"

Pitch across wide water spaces

13 1/2"

Working pressure

front 217 lbs.

back 263 lbs.

Girders to combustion chamber tops: Material

Steel

Tensile strength

28/32 Tons

Depth and thickness of girder

at centre

9" x 1 3/4"

Length as per Rule

33"

Distance apart

10 1/4"

No. and pitch of stays

in each

Two - 9 1/2"

Working pressure by Rules

212 lbs.

Combustion chamber plates: Material

Steel

Tensile strength

26/30 Tons

Thickness: Sides

2 5/32"

Back

1 3/16"

Top

2 5/32"

Bottom

7/8"

Pitch of stays to ditto: Sides

10 1/2" x 9 5/8"

Back

10 7/8" x 10 1/8"

Top

10 1/4" x 9 1/2"

Are stays fitted with nuts or riveted over

Nuts

Working pressure by Rules

212 lbs.

Front plate at bottom: Material

Steel

Tensile strength

26/30 Tons

Thickness

7/8"

Lower back plate: Material

Steel

Tensile strength

26/30 Tons

Thickness

7/8"

Pitch of stays at wide water space

13 1/2" x 10 1/8"

Are stays fitted with nuts or riveted over

Nuts

Working Pressure

220 lbs.

Main stays: Material

Steel

Tensile strength

28/32 Tons

Diameter

At body of stay, or over threads

3 1/2"

No. of threads per inch

Six

Area supported by each stay

441 sq. ins.

Working pressure by Rules

215 lbs.

Screw stays: Material

Iron

Tensile strength

21 1/2 Tons

Diameter

At turned off part, or over threads

Sides - Top 1 7/8"

Back 2"

No. of threads per inch

Nine

Area supported by each stay

Sides - Top 101 sq. ins.

Back 110 sq. ins.

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Sides Top 211 lbs

Working pressure by Rules *Back 230 lbs* Are the stays drilled at the outer ends *No* ✓ Margin stays: Diameter { At turned off part, *2 1/8"*
Over threads

No. of threads per inch *Nine* ✓ Area supported by each stay *123.2 sq"* Working pressure by Rules *230 lbs* ✓

Tubes: Material *Iron* External diameter { Plain *2 1/2"* Thickness { *9 L.S.G.* No. of threads per inch *Nine* ✓
Stay *2 1/2"* { *1/4" - 5/16" - 3/8"*

Pitch of tubes *3 5/8" x 3 3/4"* Working pressure by Rules *Plain 230 lbs: Stay 233 lbs* Manhole compensation: Size of opening in shell plate ✓ Section of compensating ring ✓ No. of rivets and diameter of rivet holes ✓

Outer row rivet pitch at ends ✓ Depth of flange if manhole flanged ✓ Steam Dome: Material *None fitted* ✓

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 *None fitted* ✓ 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 22 inclusive for boilers been complied with ✓

The foregoing is a correct description,
For **JOHN READHEAD & SONS, LTD** Manufacturer.

Dates of Survey { During progress of work in shops - -
while building { During erection on board vessel - -

See Mach^y Report.

Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) *Yes*

Total No. of visits *2, 8, 9, 10*

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

These Boilers have been built under Special Survey. Materials and Workmanship are good. Hydraulic tests satisfactory. They have been efficiently installed & fixed in the vessel, examined under steam & their Safety Valves adjusted.

Survey Fee *1st Entry on Machinery* When applied for, 192

Travelling Expenses (if any) £ When received, 192

B. H. Knowles.
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *TUE. 26 NOV 1929*

Assigned *See Mch^y rpt. attached* *TUE. 17 DEC 1929*



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