

REPORT ON BOILERS.

No. 101040

Received at London Office

Date of writing Report

19

When handed in at Local Office

27.1.1943

Port of

NEWCASTLE-ON-TYNE

No. in Survey held at
Reg. Book.

South Shields

Date, First Survey

27 June 1942

Last Survey

11 Jan 1943

1943

(Number of Visits)

Gross

6140.31

Tons

Net

4103.21

06331 on the

S. S. EMPIRE FORTUNE

Built at

S. Shields

By whom built

J. Readhead & Sons Ltd

Yard No.

531

When built

1943

Engines made at

South Shields

By whom made

J. Readhead & Sons Ltd

Engine No.

531

When made

1943

Boilers made at

South Shields

By whom made

J. Readhead & Sons Ltd

Boiler No.

531

When made

1943

Nominal Horse Power

Owners

Ministry of War Transport

Port belonging to

S. Shields

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

Manufacturers of Steel

The Steel Company of Scotland Ltd

(Letter for Record)

S

Total Heating Surface of Boilers

5486 sq

Is forced draught fitted

Yes

Coal or Oil fired

Coal

No. and Description of Boilers

2 Single ended multitubular

Working Pressure

220 lb

Tested by hydraulic pressure to

280 lb

Date of test

P. 28.11.42

No. of Certificate

P-1024

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

60 sq

No. and Description of safety valves to each boiler

2 Double spring loaded

H.L.

Area of each set of valves per boiler

per Rule

9.72 sq

as fitted

Pressure to which they are adjusted

220 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

2'-2"

Is oil fuel carried in the double bottom under boilers

No

Smallest distance between shell of boiler and tank top plating

2'-0"

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

15'-6"

Length

11'-9"

Shell plates: Material

S.W. Steel

Tensile strength

29-33 tons

Thickness

1 1/2"

Are the shell plates welded or flanged

✓

Description of riveting: circ. seams

end D.R.L.J.

long. seams

T.R.O.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

64.8

rivets

44.0

Percentage of strength of circ. intermediate seam

plate

✓

Percentage of strength of longitudinal joint

plate

85.0

rivets

87.6

combined

87.5

Thickness of butt straps

outer

13/16"

No. and Description of Furnaces in each Boiler

3 Dighton Type

Material

S.W. Steel

Tensile strength

26-30 tons

Smallest outside diameter

3'-9 1/8"

Length of plain part

top

✓

Thickness of plates

crown

1 1/2"

Description of longitudinal joint

✓

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

✓

End plates in steam space: Material

S.W. Steel

Tensile strength

26-30 tons

Thickness

15/16"

Pitch of stays

20 1/2" x 20 1/4"

How are stays secured

Double nuts over each outside (12 1/2" dia x 1" thick)

Tube plates: Material

front S.W. Steel

back S.W. Steel

Tensile strength

26-30 tons

Thickness

15/16"

Mean pitch of stay tubes in nests

9 13/16"

Pitch across wide water spaces

14"

Girders to combustion chamber tops: Material

S.W. Steel

Tensile strength

29-33 tons

Depth and thickness of girder

at centre

8 1/2" x 1 3/4"

Length as per Rule

2'-7 1/2"

Distance apart

9 1/8"

No. and pitch of stays

in each

20 q

Combustion chamber plates: Material

S.W. Steel

Tensile strength

26-30 tons

Thickness: Sides

3/4"

Back

3/4"

Top

3/4"

Bottom

1/8"

Pitch of stays to ditto: Sides

9 1/2" x 9 3/8"

Back

9 15/16" x 9"

Top

9" x 9 1/8"

Are stays fitted with nuts or riveted over

nuts

Front plate at bottom: Material

S.W. Steel

Tensile strength

26-30 tons

Thickness

15/16"

Lower back plate: Material

S.W. Steel

Tensile strength

26-30 tons

Thickness

1/8"

Pitch of stays at wide water space

14" x 9"

Are stays fitted with nuts or riveted over

nuts

Main stays: Material

S.W. Steel

Tensile strength

28-32 tons

Diameter

At body of stay,

or

Over threads

3 1/2"

No. of threads per inch

6

Screw stays: Material

S.W. Steel

Tensile strength

26-30 tons

Diameter

At turned off part,

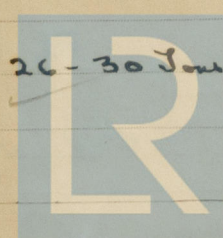
or

Over threads

1 1/8"

No. of threads per inch

9



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Foundation

003208-003216-0145

Are the stays drilled at the outer ends No ✓ Margin stays: Diameter { At turned off part. } 2"
No. of threads per inch 9 ✓
Tubes: Material 3 row ✓ External diameter { Plain 3" Stay 3" } Thickness { 3/16" 3/8" } No. of threads per inch 9 ✓
Pitch of tubes 11 1/2" x 6 1/2" ✓ Manhole compensation: Size of opening in
shell plate 16" x 12" Section of compensating ring 8" x 1 1/2" No. of rivets and diameter of rivet holes 20 x 1 1/2" ✓
Outer row rivet pitch at ends 10" ✓ 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 ✓ Thickness of crown ✓ No. and diameter of
stays ✓ Inner radius of crown ✓
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 The Superheater Co. Ltd. Manufacturers of

Tubes See approved plans
Steel forgings certificates for tests
Steel castings

Number of elements 66 Material of tubes S.D. Steel Internal diameter and thickness of tubes 1 7/8" - 2 5/8"
Material of headers Forged Steel Tensile strength ✓ Thickness ✓ Can the superheater be shut off and
the boiler be worked separately Yes Is a safety valve fitted to every part of the superheater which can be shut off from the boiler Yes
Area of each safety valve 3.54" Are the safety valves fitted with easing gear Yes
Pressure to which the safety valves are adjusted 225 lb. a" Hydraulic test pressure:
tubes 1000 lb. a" forgings and castings 660 lb. a" and after assembly in place 450 lb. a" Are drain cocks or
valves fitted to free the superheater from water where necessary Yes

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with

FOR JOHN READHEAD & SONS, LTD.

The foregoing is a correct description,

H.M. Coateworth

Director. Manufacturer.

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

See Inclsy Report

Are the approved plans of boiler and superheater forwarded herewith 25-2-42
(If not state date of approval.)

Total No. of visits

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. EMPIRE CLOUGH 100451

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

The boilers have been built under special survey in accordance with rule requirements & approved plans. Materials & workmanship are good. Hydraulic test satisfactory. They have been efficiently installed & fixed in vessel, examined under steam & the safety valves adjusted to the approved pressure.

Survey Fee ... £ :
Travelling Expenses (if any) See Inclsy Report

When applied for, 19
When received, 19

J. N. Matthews

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 5 MAR 1943

Assigned

See Nwc 2.E. 101040



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