

Rpt. 5a.

REPORT ON BOILERS.

No. 65918

Received at London Office

13 AUG 1942 1 JUL 1943

Date of writing Report

10

When handed in at Local Office

10: 8: 1/2

Port of

Glasgow

No. in Survey held at
Reg. Book.

Glasgow

Date, First Survey

24: 1: 41

Last Survey

5: 8: -

1942

on the

1/2 "EMPIRE FLOPZEL"

(Number of Visits

78

Gross
Tons
Net

Master

Built at Port Glasgow

By whom built

Lithgow Ltd

Yard No. 990

When built 1942

Engines made at

Greenock

By whom made

J. S. Kincaid & Co Ltd

Engine No. 747

When made 1942

Boilers made at

Glasgow

By whom made

Fairfield S. B. & Co. Ltd

Boiler No. A/70

When made 1942

Nominal Horse Power

Owners

MINISTRY OF WAR TRANSPORT

Port belonging to

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Steel Company of Scotland Ltd

(Letter for Record S)

Total Heating Surface of Boilers

5920 sq ft

Is forced draught fitted

yes

Coal or Oil fired

coal

No. and Description of Boilers

Two single ended marine

Working Pressure 220

Tested by hydraulic pressure to

380

Date of test

11-6-42

No. of Certificate

21083

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

66.6 sq ft

No. and Description of safety valves to each boiler

15.750"

One 3 1/2" ordinary double opening

Area of each set of valves per boiler

per Rule

15.750"

Pressure to which they are adjusted

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

Is oil fuel carried in the double bottom under boilers

Smallest distance between shell of boiler and tank top plating

Is the bottom of the boiler insulated

Largest internal dia. of boilers

16-1 1/2"

Length

12'-0"

Shell plates: Material

S

Tensile strength 29-33 tons

Thickness

1 3/8"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end

DR Lap

long. seams

D.B.S.: T.R.

Diameter of rivet holes in

circ. seams

F 1 3/8"

B 1 9/16"

Pitch of rivets

F 3.4"

B 4.196"

Percentage of strength of circ. end seams

plate

F 60.

B 62.7

Percentage of strength of circ. intermediate seam

plate

rivets

-

Percentage of strength of longitudinal joint

plate

85.5

rivets

85.26

combined

88.13

Working pressure of shell by Rules

-

Thickness of butt straps

outer

1 1/2"

inner

1 1/2"

No. and Description of Furnaces in each Boiler

Four Deighton

Material

S

Tensile strength

26-30 tons

Smallest outside diameter

3'-5 1/4"

Length of plain part

top

-

bottom

Thickness of plates

crown

9/8"

bottom

Description of longitudinal joint

welded

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

Working pressure of furnace by Rules

End plates in steam space: Material

S

Tensile strength

26-30 tons

Thickness

1 1/2"

Pitch of stays 22 1/2" x 17 1/2"

How are stays secured

DN

Working pressure by Rules

-

Tube plates: Material

front

S

back

S

Tensile strength

26-30 tons

Thickness

15/16"

25/32"

Mean pitch of stay tubes in nests

9 1/2"

Pitch across wide water spaces

14"

Working pressure

front

-

back

-

Girders to combustion chamber tops: Material

S

Tensile strength 28-32 tons

Depth and thickness of girder

as centre

20 1/2" x 7 1/8"

Length as per Rule

36 3/16"

Distance apart

9 3/8"

No. and pitch of stays

in each

3 @ 8 3/4"

Working pressure by Rules

-

Combustion chamber plates: Material

S

Tensile strength

26-30 tons

Thickness: Sides

25/32"

Back

21/32"

Top

25/32"

Bottom

25/32"

Pitch of stays to ditto: Sides

9 3/8" x 8 3/4"

Back

8 1/2" x 8"

Top

9 3/8" x 8 3/4"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

-

Front plate at bottom: Material

S

Tensile strength 26-30 tons

Thickness

15/16"

Lower back plate: Material

S

Tensile strength 26-30 tons

Thickness

53/64"

Pitch of stays at wide water space

13 1/2"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

-

Main stays: Material

S

Tensile strength 28-32 tons

Diameter

At body of stay,

3 1/4"

or

3 1/2"

No. of threads per inch

6

Area supported by each stay

-

Screw stays: Material

S

Tensile strength 26-30 tons

Working pressure by Rules

-

Diameter

At turned off part,

1 7/8"

or

1 3/4"

No. of threads per inch

9

Area supported by each stay

-

Diameter

Over threads

1 7/8"

1 3/4"

1 7/8"

2 1/4"

No. of threads per inch

9

Area supported by each stay

-

-

-

-

-

-

-

-

At turned off part,

1 7/8"

or

1 3/4"

No. of threads per inch

9

Area supported by each stay

-

-

-

-

-

-

-

-

-

Over threads

1 7/8"

1 3/4"

1 7/8"

2 1/4"

No. of threads per inch

9

Area supported by each stay

-

-

-

-

-

-

-

-

-

-

Lloyd's Register
Foundation
W1169-006

Working pressure by Rules — Are the stays drilled at the outer ends *no* Margin stays: Diameter { At turned off part, 1 3/4" 1 7/8" Over threads }
No. of threads per inch *9* Area supported by each stay — Working pressure by Rules —
Tubes: Material *S* External diameter { Plate *3"* Stay *3"* Thickness { *8 W. 9.* *7/16"* *7/16"* No. of threads per inch *9*
Pitch of tubes *4 3/16" x 4 1/8"* Working pressure by Rules — Manhole compensation: Size of opening in
end shell plate *16 x 12* Section of compensating ring — No. of rivets and diameter of rivet holes —
Outer row rivet pitch at ends — Depth of flange if manhole flanged *4"* Steam Dome: Material *none*
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* Manufacturers of { Tubes Steel forgings 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 casing gear — Working pressure as per
Rules — Pressure to which the safety valves are adjusted — Hydraulic test pressure :
tubes — forgings and 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

For The FAIRFIELD SHIPBUILDING & ENGINEERING CO. LTD.

The foregoing is a correct description,

C. R. Shachan

Joint Managing Director Manufacturer.

Dates of Survey { During progress of work in shops - 1941 Jan: 24 Feb: 11-17 Mar: 29-31 Apr: 9 May: 5-27 June: 16-17 Aug: 21 Sep: 9-17-22-24-30 Oct: 3-10-13 (If not state date of approval.)
while building { During erection on board vessel - 15-17-20-22-31 Nov: 6-10-11-12-14-21-28 Dec: 3-8-9-16-17-18-22 (Total No. of visits = 78)
board vessel - 18-27-30 Apr: 10-14-15-24 May: 11-18-11-18-22-26 June: 1-3-11-17-22-23-24 July: 3-24-30 Aug: 5

Is this Boiler a duplicate of a previous case *yes* If so, state Vessel's name and Report No. *LITHGOWS LTD 957) EL Rpt R 642 41*

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

The materials and workmanship are good.
The boilers have been constructed under special survey and in accordance with the specification.
The boilers will be sent to Greenock to be fitted in the vessel.

Rob
10/5/42

These boilers have been officially installed in the vessel & safety valves adjusted under steam.
For recommendations please see Greenock report N° 22357

Charles J. Hunter
21/6/43

Survey Fee ... { £ 40 : 5 : } When applied for, **11 AUG 1942**
+ 25% appreciation fee ...
Travelling Expenses (if any) £ : : When received, 19

W. J. Davis
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **GLASGOW 11 AUG 1942** *LM*

Assigned *Refused for completion*