

REPORT ON BOILERS.

No. 65764

Received at London Office

916 JUL 1942

Date of writing Report

19

When handed in at Local Office

11: 7:

to 42

Port of

Glasgow

No. in Survey held at
Reg. Book.

Blydebank

Date, First Survey

31: 1: 41

Last Survey

20: 3:

19 42

(On Gen Rpt 66770)

(Number of Visits

128

Tons

Gross

Net

on the

S/S

"EMPIRE GERAIN"

Built at

Glasgow

By whom built

Chas. Connell & Co. Ltd.

Yard No.

439

When built

1942

Engines made at

Glasgow

By whom made

David Brown & Co. Ltd.

Engine No.

7

When made

1942

Boilers made at

Blydebank

By whom made

John Brown & Co. Ltd.

Boiler No.

58

When made

1942

Nominal Horse Power

558

Owners

Ministry of War Transport

Port belonging to

Glasgow.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Colvilles 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

2 Multitubular

Working Pressure

220

Tested by hydraulic pressure to

380

Date of test

5-3-42

No. of Certificate

20994

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

2-3 1/4" S.L.

Area of each set of valves per boiler

{ per Rule 15.74 sq ft
as fitted 16.58 sq ft

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

Is oil fuel carried in the double bottom under boilers

No

Smallest distance between shell of boiler and tank top plating

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

16'-1 1/4"

Length

12'-0 1/16"

Shell plates: Material

S.S.

Tensile strength

29-33

Thickness

1 3/64"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end

S.R.

inter.

hil

long. seams

T.R.I.B.S.

Diameter of rivet holes in

{ circ. seams 8 1/16" F 1 3/16"
long. seams 1 9/16"

Pitch of rivets

8 1/16" F 3/4"

Percentage of strength of circ. end seams

{ plate F60 862.7
rivets 44.7 - 47

Percentage of strength of circ. intermediate seam

{ plate hil
rivets

Percentage of strength of longitudinal joint

{ plate 85.5
rivets 85.26

Thickness of butt straps

{ outer 1 1/64"
inner 1 1/64"

No. and Description of Furnaces in each Boiler

4 Deighton

Material

S

Tensile strength

26-30

Smallest outside diameter

3'-5 1/4"

Length of plain part

{ top
bottom

Thickness of plates

{ crown 5/8"
bottom

Description of longitudinal joint

weld

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

none

End plates in steam space: Material

S

Tensile strength

26-30

Thickness

1 13/32"

Pitch of stays

20.5"

How are stays secured

D.N.

Tube plates: Material

{ front S
back S

Tensile strength

26-30

Thickness

15/16"
25/32"

Mean pitch of stay tubes in nests

10"

Pitch across wide water spaces

14"

Girders to combustion chamber tops: Material

S

Tensile strength

28-32

Depth and thickness of girder

at centre

10" x 1 3/4"

Length as per Rule

30.6"

Distance apart

9 3/8"

No. and pitch of stays

in each

3-8 3/4"

Combustion chamber plates: Material

S

Tensile strength

26-30

Thickness: Sides

25/32"

Back

2 1/32"

Top

25/32"

Bottom

25/32"

Pitch of stays to ditto:

Sides 8 3/4" x 9 3/8"

Back 8 1/2" x 8"

Top 9 3/8" x 8 3/4"

Are stays fitted with nuts or riveted over

nuts

Front plate at bottom: Material

S

Tensile strength

26-30

Thickness

15/16"

Lower back plate: Material

S

Tensile strength

26-30

Thickness

53/64"

Pitch of stays at wide water space

13 1/2"

Are stays fitted with nuts or riveted over

nuts

Main stays: Material

S

Tensile strength

28-32

Diameter

{ At body of stay 3 1/2" - 3 1/4"
or
Over threads

No. of threads per inch

6

Screw stays: Material

S

Tensile strength

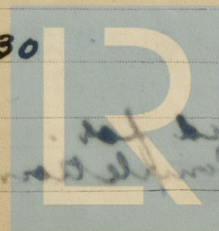
26-30

Diameter

{ At turned off part 1 5/8", 1 3/4", 1 7/8", 2 1/4"
or
Over threads

No. of threads per inch

9



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Are the stays drilled at the outer ends **no**

No. of threads per inch **9**

Margin stays: Diameter { At turned off part. **1 3/4"**
or
Over threads

Tubes: Material **8.**

External diameter { Plain **3"**
Stay **3"**

Thickness **8 w.g.** No. of threads per inch **9**

Pitch of tubes **4 1/8" x 4 3/16"**

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

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

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 easing gear

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 **Yes**

John Brown & Company, Limited.
The foregoing is a correct description,

Manufacturer.

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

Additional Notes to Glasgow Are the approved plans of boiler and superheater forwarded herewith
64770 on Enquiries: 1941 Dec: 5-8-10-11-18-19-23-26 (If not state date of approval.)
31 (1942) Jan: 6-7-9-12-16-19-26-30 Total No. of visits **128** (including Gls Rpt 64770)
Feb: 3-5-9-11-16-17-26 Mar: 5-16-18-20 = 28

Is this Boiler a duplicate of a previous case **Yes**

If so, state Vessel's name and Report No. **"EMPIRE LANCER" Gls Rpt. 66336**

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

These Boilers have been built under special survey in accordance with the approved plan and The Society's Rules and requirements, the materials and workmanship are good. They have been efficiently installed in the vessel and the safety valves have been adjusted to the working pressure.

The requirements of The Ministry of Shipping Specification have been carried out satisfactorily

Survey Fee ... £ **32.5**

Travelling Expenses (if any) £ **8.1**

When applied for, **14 JUL 1942**

When received, **19**

Committee's Minute **GLASGOW 14 JUL 1942**

Assigned

**signed for
Completion**

Jas. Cairns, M.B.E.
Engineer Surveyor to Lloyd's Register of Shipping.

GLASGOW 22 DEC 1942

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