

Rpt. 5a.

REPORT ON BOILERS.

No. 66375

Received at London Office

10 DEC 1942

13 JUL 1941

Date of writing Report

When handed in at Local Office

1. 12. 1942 Port of Glasgow

Date, First Survey

16-12-41

Last Survey

7-9-1942

1942

No. in Survey held at Reg. Book.

Glasgow

"EMPIRE TALISMAN"

(Number of Visits 36)

Gross Tons

Net

on the

Master

Built at

Port Glasgow

By whom built

Lithgow Limited

Yard No. 997

When built 1944

Engine No.

When made

525667

Boiler No. A/71

When made 1942

meter of Engines made at

By whom made

Fairfield S.B. & Co. Ltd.

Boilers made at

Glasgow

By whom made

Port belonging to

Nominal Horse Power

Owners

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Steel Company of Scotland Ltd

Is forced draught fitted

yes

(Letter for Record (S))

Coal or Oil fired coal

Total Heating Surface of Boilers

5920 sq ft

Working Pressure 220

No. and Description of Boilers

Two single ended marine

21170

Tested by hydraulic pressure to

380

Date of test

28-8-42

No. of Certificate

21131

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

one 3 1/4" ordinary double spring

Area of each set of valves per boiler

per Rule 15.750"

as fitted 16.590"

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

Is oil fuel carried in the double bottom under boilers

Smallest distance between boilers or uptakes and bunkers or woodwork

Is the bottom of the boiler insulated

Smallest distance between shell of boiler and tank top plating

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 1/2"

Pitch of rivets

F 3-4" B 4-1 1/2"

Percentage of strength of circ. end seams

plate F 60. B 62.7

rivets F 44.7 B 47

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 1/4"

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 5/8"

bottom 5/8"

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

Working pressure by Rules

How are stays secured

WN

Tensile strength

26-30 tons

Thickness

15/16"

25/32"

Tube plates: Material

front S

back S

Tensile strength

" " "

Working pressure

front

back

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

at centre

2 @ 10" x 7/8"

Length as per Rule

36 9/16"

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

53/64"

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" 3 1/2"

or swelled ends

No. of threads per inch

6

Area supported by each stay

Tensile strength 26-30 tons

Working pressure by Rules

Screw stays: Material

S

Area supported by each stay

Diameter

At turned off part, 1 7/8" 1 3/4" 1 7/8" 2 1/4"

or Over threads

No. of threads per inch

9

Area supported by each stay

004527-004533-0015

Lloyd's Register Foundation

Working pressure by Rules - Are the stays drilled at the outer ends ☒ Margin stays: Diameter { At turned off part, or Over threads 1 3/4" 1 7/8"

No. of threads per inch 9 Area supported by each stay - Working pressure by Rules -

Tubes: Material S External diameter { Plain 3" Stay 3" Thickness { 8 w.g. 7 1/2" No. of threads per inch 9

Pitch of tubes 4 3/16" x 4 7/8" 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 easing 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

The foregoing is a correct description, For The FAIRFIELD SHIPBUILDING & ENGINEERING Co. Ltd.,

Dates of Survey while building { During progress of work in shops - 1941 Dec 16-18-22 1942 Jan 9-19-27-30 Feb 9-11-14-18 Mar 2-6-11-18-27 Apr 10-14-18-24 May 1-8-11-18-25 June 1-3-7-22 July 3-24-28 Aug 6-10-18-25

Are the approved plans of boiler and superheater forwarded herewith 9-10-40 (If not state date of approval.)

Total No. of visits 36

Is this Boiler a duplicate of a previous case yes If so, state Vessel's name and Report No. (LITHGOWS LTD 957) Esb Rpt. No 64241

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

The workmanship and materials are good.

The boilers have been constructed under special survey and in accordance with the D.M.S.R. specification.

30-11-42 The boilers have been stored at the makers works since completion. They have now been sent to James Watt Works Greenock to await allocation.

Survey Fee ... { £40 : 5 : } When applied for, 8 DEC 1942

+ 25% specification fee

Travelling Expenses (if any) £ : : When received, 19

Sh Davis Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 8 DEC 1942

Assigned Referred for completion