

REPORT ON BOILERS.

No. 63091

Received at London Office NOV 28 1940

Date of writing Report

When handed in at Local Office

25. 11. 1940

Port of GLASGOW

No. in
Reg. Book.

Surrey held at Glasgow

Date, First Survey

3rd June 1940

Last Survey

11th Nov. 1940

(Number of Visits

13)

Gross 6828

Tons

Net 3977

on the s/s

"EMPIRE VOICE"

Built at

Glasgow

By whom built

Barley Curle & Co. Ltd.

Yard No. 678

When built 1940

Engines made at

-do-

By whom made

-do-

Engine No. 678

When made 1940

Boilers made at

-do-

By whom made

-do-

Boiler No. 678

When made 1940

Nominal Horse Power

630

Owners

Ministry of Shipping

Port belonging to

Glasgow

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Cottrells Ltd.

(Letter for Record

S

Total Heating Surface of Boilers

8344 sq ft

Is forced draught fitted

Yes

Coal or Oil fired

Coal

No. and Description of Boilers

4 Single-ended

Working Pressure 250 lb.

Tested by hydraulic pressure to

425 lb.

Date of test

26-8-40

No. of Certificate

20631

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

52 sq ft

No. and Description of safety valves to each boiler

2" I.H.L. direct

Area of each set of valves per boiler

per Rule 4.92 sq ft

as fitted 6.28 sq ft

Pressure to which they are adjusted

250 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

19"

Is oil fuel carried in the double bottom under boilers

No

Smallest distance between shell of boiler and tank top plating

22"

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

14'-0"

Length

11'-6"

Shell plates: Material

Steel

Tensile strength

29/33 tons

Thickness

1 17/32"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end double

long. seams

D.B.S. T.R.

Diameter of rivet holes in

circ. seams 1 9/16"

long. seams 1 9/16"

Pitch of rivets

4.09"

Percentage of strength of circ. end seams

plate 61.7

rivets 48.3

Percentage of strength of circ. intermediate seam

plate 85.4

rivets 86

Percentage of strength of longitudinal joint

plate 85.4

rivets 86

combined 88

Thickness of butt straps

outer 1 3/16"

inner 1 5/16"

No. and Description of Furnaces in each Boiler

3 Dighton

Material

Steel

Tensile strength

26/30 tons

Smallest outside diameter

41 1/4"

Length of plain part

top -

bottom -

Thickness of plates

crown 23/32"

bottom 1/32"

Description of longitudinal joint

welded

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

End plates in steam space: Material

Steel

Tensile strength

26/30 tons

Thickness

1 29/64"

Pitch of stays

18 1/2" x 21"

How are stays secured

DN

Tube plates: Material

front Steel

back Steel

Tensile strength

26/30 tons

Thickness

1 31/32"

Mean pitch of stay tubes in nests

9.95"

Pitch across wide water spaces

14"

Girders to combustion chamber tops: Material

Steel

Tensile strength

28/32 tons

Depth and thickness of girder

at centre

2 @ 10 3/4" x 7/8"

Length as per Rule

38 2 3/4"

Distance apart

6 7/8" x 7 3/4"

No. and pitch of stays

in each

3 @ 9 1/2"

Combustion chamber plates: Material

Steel

Tensile strength

26/30 tons

Thickness: Sides

3/4"

Back

3/4"

Top

3/4"

Bottom

7/8"

Pitch of stays to ditto:

Sides 8 1/4" x 9 1/2"

Back 8 1/4" x 9 1/2"

Top 9 1/2" x 7 3/4"

Are stays fitted with nuts or riveted over

nuts

Front plate at bottom: Material

Steel

Tensile strength

26/30 tons

Thickness

1"

Lower back plate: Material

Steel

Tensile strength

26/30 tons

Thickness

29/32"

Pitch of stays at wide water space

14"

Are stays fitted with nuts or riveted over

nuts

Main stays: Material

Steel

Tensile strength

28/32 tons

Diameter

At body of stay, 5 7/8"

or Over threads

No. of threads per inch

6

Screw stays: Material

Steel

Tensile strength

26/30 tons

Diameter

At turned off part, 1 7/8"

or Over threads

No. of threads per inch

9



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Are the stays drilled at the outer ends no

Margin stays: Diameter { At turned off part, 2" or Over threads 2"

No. of threads per inch 9

Tubes: Material steel External diameter { Plain 3" Stay 3" Thickness { 8 W.G. 3/8", 9/16" + 1/2" No. of threads per inch 9

Pitch of tubes 4 1/8" x 4 1/4" Manhole compensation: Size of opening in shell plate 21" x 17" Section of compensating ring 13" x 1 1/32" No. of rivets and diameter of rivet holes 40 @ 1 9/16"

Outer row rivet pitch at ends 10 3/4" Depth of flange if manhole flanged 4 3/8" 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 _____ 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 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 _____

Pressure to which the safety valves are adjusted _____ Hydraulic test pressure: _____

tubes _____ forgings and castings _____ and after assembly in place _____

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

The foregoing is a correct description,
Alexander Macmillan Manufacturer,

Dates of Survey { During progress of work in shops - - 1940 June 3-10 21-25 July 11-23-30 Are the approved plans of boiler and superheater forwarded herewith Yes
 while building { During erection on board vessel - - - Aug: 6-13 21-26 Sep 5 Nov: 11 (If not state date of approval.)
 Total No. of visits 13

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. "EMPIRE LIGHT" GLA R/H 62783

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These boilers have been built under special survey in accordance with the Rules and approved plans, and the materials and workmanship are good. They have been satisfactorily installed in the vessel and the safety valves have been adjusted to the working pressure.

26
03/11/40

Survey Fee ... £ _____ When applied for, _____ 19
 Travelling Expenses (if any) £ See Machy. acct. When received, _____ 19

A. J. Brown
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 26 NOV 1940

Assigned SEE ACCOMPANYING MACHINERY REPORT.



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