

## REPORT ON BOILERS.

No. 22226.

Received at London Office 3 MAR 1943

Date of writing Report 22<sup>nd</sup> FEB 1943. When handed in at Local Office 26<sup>th</sup> FEB 1943. Port of GREENOCK

No. in Survey held at GREENOCK

Date, First Survey 8<sup>th</sup> JUNE 1942. Last Survey 19<sup>th</sup> JULY 1943

Reg. Book. Sup. 88736 on the

SINGLE SC "TRIONA"

(Number of Visits ☒) Gross 7282.89 Tons Net 4025.21

Built at PORT GLASGOW

By whom built

LITHGOWS LTD.

Yard No. 974 When built 1943

Engines made at GREENOCK

By whom made

JOHN G. KINCAID &amp; CO LTD

Engine No. 741 When made 1943

Boilers made at GREENOCK

By whom made

JOHN G. KINCAID &amp; CO LTD

Boiler No. 741 When made 1943

Nominal Horse Power 509.

Owner BRITISH PHOSPHATE COMMISSIONERS Port belonging to

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

Manufacturers of Steel

Colvilles & L<sup>td</sup>

(Letter for Record S)

Total Heating Surface of Boilers

7248<sup>sq</sup>

Is forced draught fitted Yes

Coal or Oil fired Coal

No. and Description of Boilers

Three S.F. Multitubular

Working Pressure 220 lbs/sq

Tested by hydraulic pressure to 380 lbs/sq

Date of test 29-8-42

2303  
2305  
2306

No. of Certificate

Can each boiler be worked separately Yes

Area of Firegrate in each Boiler 54.84

No. and Description of safety valves to each boiler

2 1/2" Double opening I.H.L.

Area of each set of valves per boiler {per Rule 6.427

{as fitted 7.96

Pressure to which they are adjusted 220 lbs. 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

1'-3"

Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating

2'-1 1/4"

Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers

15'-0 1/8"

Length

11'-6"

Shell plates: Material S

Tensile strength 29/33 tons

Thickness

1 15/32"

Are the shell plates welded or flanged No

Description of riveting: circ. seams {end DR

long. seams TR. DBS.

Diameter of rivet holes in {circ. seams 1 1/2"

{long. seams 1 1/2"

Pitch of rivets {

4.07"

10.375"

Percentage of strength of circ. end seams {plate 63.1

{rivets 46.7

Percentage of strength of circ. intermediate seam {plate 85.5

{rivets 86

Percentage of strength of longitudinal joint {plate 86

{rivets 87

Thickness of butt straps {outer 1 1/8"

{inner 1 1/4"

No. and Description of Furnaces in each Boiler

3 Dighton corrugated

Material S

Tensile strength

26/30 tons

Smallest outside diameter

3'-9 1/4"

Length of plain part {top

{bottom

Thickness of plates {crown 1 1/16"

{bottom 1 1/16"

Description of longitudinal joint Weld

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

End plates in steam space: Material S

Tensile strength

26/30 tons

Thickness

1 13/32"

Pitch of stays 21 x 20"

How are stays secured D.N.

Tube plates: Material {front S

{back

Tensile strength

26/30 tons

Thickness

15 1/16"

25 1/32"

Mean pitch of stay tubes in nests

9.8125"

Pitch across wide water spaces

14"

Girders to combustion chamber tops: Material S

Tensile strength

28/32 tons

Depth and thickness of girder

at centre 10 1/2" x 1 3/8"

Length as per Rule

2.9 17/32"

Distance apart

9 1/4"

No. and pitch of stays

in each 3 @ 8"

Combustion chamber plates: Material S

Tensile strength

26/30 tons

Thickness: Sides

1 1/16"

Back

1 1/16"

Top

1 1/16"

Bottom

1 3/16"

Pitch of stays to ditto: Sides

9 1/4" x 8"

Back

9 1/4" x 8"

Top

9 1/4" x 8"

Are stays fitted with nuts or riveted over Nuts except thro shell

Front plate at bottom: Material S

Tensile strength

26/30 tons

Thickness

15 1/16"

Lower back plate: Material S

Tensile strength

26/30 tons

Thickness

27 1/32"

Pitch of stays at wide water space

14 x 8"

Are stays fitted with nuts or riveted over Nuts

Main stays: Material S

Tensile strength

28/32 tons

Diameter {At body of stay, 3 1/4"

{or

No. of threads per inch

6

Screw stays: Material S

Tensile strength

26/30 tons

Diameter {At turned off part, 1 3/4"

{or

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, 17/8"  
or  
Over threads  
No. of threads per inch 9  
Tubes: Material HOT ROLLED WELDLESS STEEL External diameter { Plain 3"  
Stay 3" Thickness { 5/16 3/8 No. of threads per inch 9  
Pitch of tubes 4 1/4" x 4 1/8" 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 4 1/4" in end plate 16 1/2" 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

The foregoing is a correct description,  
For JOHN G. KINCAID & CO. LIMITED. Manufacturer.  
W. G. Kincaid Director.

Dates of Survey { During progress of work in shops - -  
while building { During erection on board vessel - - -  
Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) Yes  
Total No. of visits

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

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. The materials & workmanship are sound & good. For recommendations please see machinery report.

Survey Fee ... £ : When applied for, 19  
Travelling Expenses (if any) £ : When received, 19

See machinery report

Charles J. Hambrey

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 2 MAR 1943

SEE ACCOMPANYING MACHINERY REPORT.

Assigned



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