

REPORT ON BOILERS.

No. 84933

Received at London Office

11 NOV 1929

Date of writing Report

192

When handed in at Local Office

6th Nov 1929. Port of

No. in
Reg. Book

Survey held at Newcastle-on-Tyne.

Date, First Survey

4 Feb

Last Survey

21st Nov 1929.

(Number of Visits

)

Gross

4640

Tons

Net

2785

on the

Steel. Ss. "KITTY TAYLOR"

Master

Built at

Willington Quay.

By whom built

Sir W. G. Armstrong Whitworth & Co (Eng^s) Ltd.

Boiler No. 1054

When built 1929.

Engines made at

Scotswood.

By whom made

Sir W. G. Armstrong Whitworth & Co (Eng^s) Ltd.

Engine No. 82

When made 1929

Boilers made at

Scotswood

By whom made

Sir W. G. Armstrong Whitworth & Co (Eng^s) Ltd

Boiler No. 82.

When made 1929.

Nominal Horse Power

419.

Owners

Eros Steamship Co Ltd.

Port belonging to

London.

MULTITUBULAR BOILERS - MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel David Colville & Sons Glasgow (Steel) J. Thompson Ltd Wolverhampton (Furnace) Letter for Record S.

Total Heating Surface of Boilers

6870 sq ft.

Is forced draught fitted

No.

Coal or Oil fired

Coal

No. and Description of Boilers

3 Single Ended Multitubular 3 SB

Working Pressure

180 lbs/sq"

Tested by hydraulic pressure to

820 lbs/sq"

Date of test

28.5.28.
4.6.28.
10.6.28.

No. of Certificates

350.
355.
356.

Can each boiler be worked separately

Yes.

Area of Firegrate in each Boiler

64 sq ft

No. and Description of safety valves to each boiler

2 Spring Loaded.

Area of each set of valves per boiler

(per Rule

14.7 sq ins.

Pressure to which they are adjusted

180 lbs/sq"

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

2'-4"

Is oil fuel carried in the double bottom under boilers

No.

Smallest distance between shell of boiler and tank top plating

2'-0"

Is the bottom of the boiler insulated

No.

Largest internal dia. of boilers

15'-0 1/2"

Length

11'-0"

Shell plates: Material

Steel

Tensile strength

28-32 tons

Thickness

1 1/4"

Are the shell plates welded or flanged

neither

Description of riveting: circ. seams

end

inter.

long. seams

T.R. Double Butt Straps

Diameter of rivet holes in

(circ. seams

1 5/16"

Pitch of rivets

3.85"

9"

Percentage of strength of circ. end seams

(plate

66.4 %.

(rivets

45.9 %.

Percentage of strength of circ. intermediate seam

(plate

(rivets

Percentage of strength of longitudinal joint

(plate

85.4 %.

(rivets

92 %.

(combined

89.6 %.

Working pressure of shell by Rules

181 lbs/sq"

Thickness of butt straps

(outer

3/32"

No. and Description of Furnaces in each Boiler

3. Beighton Section. 3 CF.

Material

Steel

Tensile strength

26-30 tons

Smallest outside diameter

3'-8 3/4"

Length of plain part

(top

7 1/2"

Thickness of plates

(crown

9/16"

Description of longitudinal joint

Weld.

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

None

Working pressure of furnace by Rules

182 lbs/sq"

End plates in steam space: Material

Steel

Tensile strength

26-30 tons

Thickness

1 1/4"

Pitch of stays 20" x 20 1/2"

How are stays secured

Tube washers inside & outside

Working pressure by Rules

183 lbs/sq"

Tube plates: Material

(front

Steel

Tensile strength

26-30 tons

Thickness

1 1/2"

13/16"

Mean pitch of stay tubes in nests

11"

Pitch across wide water spaces

14 1/4"

Working pressure

(front

197 lbs/sq"

(back

196 lbs/sq"

Girders to combustion chamber tops: Material

Steel

Tensile strength

28-32 tons

Depth and thickness of girder

at centre

8 1/2" x 1 1/2"

Length as per Rule

33.5"

Distance apart

9 1/4"

No. and pitch of stays

in each

2 @ 10 1/2"

Working pressure by Rules

180 lbs/sq"

Combustion chamber plates: Material

Steel

Tensile strength

26-30 tons

Thickness: Sides

23/32"

Back

2 1/2"

Top

23/32"

Bottom

1/8"

Pitch of stays to ditto: Sides

9" x 10 1/2"

Back

8 3/4" x 8 1/2"

Top

10 1/2" x 9 1/4"

Are stays fitted with nuts or riveted over

nutted.

Working pressure by Rules

185 lbs/sq"

Front plate at bottom: Material

Steel

Tensile strength

26-30 tons

Thickness

1 1/2"

Lower back plate: Material

Steel

Tensile strength

26-30 tons

Thickness

29/32"

Pitch of stays at wide water space

14 3/4" x 8 3/4"

Are stays fitted with nuts or riveted over

nutted

Working Pressure

212 lbs/sq"

Main stays: Material

Steel

Tensile strength

28-32 tons

Diameter

(At body of stay,

3 1/4"

No. of threads per inch

6.

Area supported by each stay

410 sq ins.

Working pressure by Rules

195 lbs/sq"

Screw stays: Material

Steel

Tensile strength

26-30 tons

Diameter

(At turned off part,

1 3/4"

No. of threads per inch

9.

Area supported by each stay

97.125 sq ins.

Working pressure by Rules *185 lb/sq in* Are the stays drilled at the outer ends *No.* Margin stays: Diameter { At turned off part, *1 7/8"* or Over threads *1 7/8"* No. of threads per inch *9.* Area supported by each stay *103 sq ins.* Working pressure by Rules *206 lb/sq in* Tubes: Material *Iron* External diameter { Plain *3 1/4"* Stay *3 1/4"* Thickness { *9 W.G.* *1/4"* *5/16"* *7/16"* No. of threads per inch *9.* Pitch of tubes *4 1/2"* Working pressure by Rules *Stay 205 lb/sq in* Plain *180 lb/sq in* Manhole compensation: Size of opening in shell plate *20" x 16"* Section of compensating ring *33" x 37" x 1 1/4"* No. of rivets and diameter of rivet holes *40 x 1 5/16"* Outer row rivet pitch at ends *9"* Depth of flange if manhole flanged *3 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 ☒ 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 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 ☒ 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. **FOR**
SIR W. G. ARMSTRONG WHITWORTH & COMPANY (ENGINEERS) LIMITED
The foregoing is a correct description,
H. Kewney Manufacturer.

Dates of Survey { During progress of work in shops - - }
while building { During erection on board vessel - - }
See Machinery Report.

Are the approved plans of boiler and superheater forwarded herewith *20/12/28.*
(If not state date of approval.)
Total No. of visits

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *These boilers have been constructed under Special Survey and in accordance with the approved plans. The materials & workmanship are sound and good. The hydraulic tests found satisfactory. These boilers have been efficiently installed on board the above vessel and their safety valves adjusted under steam.*

Survey Fee ... *See Machinery Report.* When applied for, 192
Travelling Expenses (if any) £ When received, 192

L. Pickett
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI 15 NOV 1928*
Assigned *See Report attached*