

## REPORT ON BOILERS.

No. 13103

12 NOV 1927

Received at London Office

Date of writing Report

11. 11. 1927

When handed in at Local Office

11. 11. 1927

Port of

MIDDLESBROUGH.

No. in Reg. Book.

Survey held at

STOCKTON.

Date, First Survey

See Nchy Report.

Last Survey

9. 11. 1927.

(Number of Visits

Tons

Gross 4600

Net 2810.

10987 Sup. on the

S.S. "GLOCLIFFE"

Master

Built at

Stockton

By whom built

Craig Taylor &amp; Co.

Yard No. 222.

When built 1927.

Engines made at

Stockton

By whom made

Blair &amp; Co.

Engine No. 1942 When made 1927.

Boilers made at

do.

By whom made

do.

Boiler No. 1942. When made 1927.

Nominal Horse Power

Owners

The Globe Shipping Co. Ltd. Port belonging to Cardiff.

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

Manufacturers of Steel

David Colville &amp; Sons.

(Letter for Record 8)

Total Heating Surface of Boilers

4080 sq. ft.

Is forced draught fitted

no

Coal or Oil fired

Coal.

No. and Description of Boilers

3 - S.E. Marine

Working Pressure 180 lbs.

Tested by hydraulic pressure to

320 lbs.

Date of test

2. 9. 27.

No. of Certificate

6573.

Can each boiler be worked separately

Yes.

Area of Firegrate in each Boiler

53.3 sq. ft.

No. and Description of safety valves to each boiler

Pair 2 1/4" Cornburns, High Lift.

Area of each set of valves per boiler

per Rule 7.56 sq. in.

as fitted 7.95 sq. in.

Pressure to which they are adjusted

185 lbs.

Are they fitted with easing gear

Yes.

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler

Yes.

Smallest distance between boilers or uptakes and bunkers or woodwork

Pocket 5'-0"

Is oil fuel carried in the double bottom under boilers

no.

Smallest distance between shell of boiler and tank top plating

3'-0"

Is the bottom of the boiler insulated

Yes.

Largest internal dia. of boilers

15'-3 7/16"

Length

11'-0"

Shell plates: Material

Steel

Tensile strength

28/32.

Thickness

1 9/32"

Are the shell plates welded or flanged

no.

Description of riveting: circ. seams

end D.R.

long. seams

T.R.D.B.S.

Diameter of rivet holes in

circ. seams 1 3/8"

long. seams 1 7/16"

Pitch of rivets

4 1/2"

8 3/4"

Percentage of strength of circ. end seams

plate 67.6

rivets 44.6.

Percentage of strength of circ. intermediate seam

plate 85.0

rivets 93.1

Percentage of strength of longitudinal joint

plate 85.0

rivets 93.1

combined 88.6.

Working pressure of shell by Rules 183 lbs.

Thickness of butt straps

outer 1"

inner 1 1/8"

No. and Description of Furnaces in each Boiler

3 Corrugated

Material

Steel

Tensile strength

26/30.

Smallest outside diameter

43 1/8"

Length of plain part

top

bottom

Thickness of plates

crown 9/16"

bottom 1/16"

Description of longitudinal joint

weld.

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

Yes.

Working pressure of furnace by Rules

189 lbs.

End plates in steam space: Material

Steel

Tensile strength

26/30

Thickness

1 7/32"

Pitch of stays 19x20

How are stays secured

D.N.G.W.

Working pressure by Rules

190 lbs.

Tube plates: Material

front Steel

back

Tensile strength

26/30

Thickness

1 1/16"

13/16"

Mean pitch of stay tubes in nests

11 1/16"

Pitch across wide water spaces

14 1/2" x 9 3/4"

Working pressure

front 185 lbs.

back 194 "

Girders to combustion chamber tops: Material

Steel

Tensile strength

28/32.

Depth and thickness of girder

at centre

8 x 13/16" (double)

Length as per Rule

2'-5"

Distance apart

9 3/4"

No. and pitch of stays

in each

2-9"

Working pressure by Rules

284 lbs.

Combustion chamber plates: Material

Steel

Tensile strength

26/30

Thickness: Sides

11/16"

Back

11/16"

Top

11/16"

Bottom

7/8"

Pitch of stays to ditto: Sides

8 3/8" x 10 1/4"

Back

9 3/8" x 9 3/8"

Top

9 3/4" x 9"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

188 lbs.

Front plate at bottom: Material

Steel

Tensile strength

26/30

Thickness

1 1/16"

Lower back plate: Material

Steel

Tensile strength

26/30

Thickness

31/32"

Pitch of stays at wide water space

14" x 9 3/8"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

273 lbs.

Main stays: Material

Steel

Tensile strength

28/32.

Diameter

At body of stay, 3 1/4"

Over threads

No. of threads per inch

6.

Area supported by each stay

380 sq. in.

Working pressure by Rules

211 lbs.

Screw stays: Material

Steel

Tensile strength

26/30

Diameter

At turned off part, 1 3/4"

Over threads

No. of threads per inch

8.

Area supported by each stay

88 sq. in.

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Working pressure by Rules 204 lb Are the stays drilled at the outer ends Yes Margin stays: Diameter { At turned off part. 1 7/8" or Over threads 1 7/8" ✓

No. of threads per inch 8 ✓ Area supported by each stay 103 ✓ Working pressure by Rules 201 lb ✓

Tubes: Material iron ✓ External diameter { Plain 3 1/2" ✓ Stay 3 1/2" ✓ Thickness { 8 W.G. ✓ 5/16" ✓ 7/16" ✓ No. of threads per inch 9 ✓

Pitch of tubes 4 3/4" x 4 7/8" ✓ Working pressure by Rules p. 230 S = 274 lb ✓ Manhole compensation: Size of opening in shell plate 16 x 12" ✓ Section of compensating ring 8 x 1 9/32" ✓ No. of rivets and diameter of rivet holes 27 - 1 3/8" ✓

Outer row rivet pitch at ends 9" ✓ 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 \_\_\_\_\_ 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 \_\_\_\_\_ 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 23 inclusive for boilers been complied with Yes ✓

The foregoing is a correct description,  
For BLAIR & CO. (1926) L.L.D.  
N. P. Hamilton Manufacturer.

Dates of Survey { During progress of work in shops - - - } See Machy Report ✓ Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) Yes ✓

while building { During erection on board vessel - - - } \_\_\_\_\_

Total No. of visits \_\_\_\_\_

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) The materials and workmanship are good. These boilers have been built under special Survey in accordance with the Rules and Approved Plan, securely fitted aboard and their safety valves have been adjusted under steam and tested for accumulation with satisfactory results.

Survey Fee ... See Machy Rpt. When applied for, 192

Travelling Expenses (if any) £ : : When received, 192

P. I. Man.  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 18 NOV 1927

Assigned See Rpt. attached