

## REPORT ON BOILERS.

No. 52703

Received at London Office

13 JUL 1932

Date of writing Report

19

When handed in at Local Office

9. 7. 32

Port of

Glasgow

No. in Survey held at  
Reg. Book.

Glasgow

Date, First Survey

8<sup>th</sup> Decr 1931

Last Survey

7<sup>th</sup> July 1932

(Number of Visits 46)

Gross 4224

Tons

Net 2479

Master

Built at

Glasgow

By whom built

A. Stephen &amp; Sons Ltd

Yard No. 534

When built 1932

Engines made at

Glasgow

By whom made

A. Stephen &amp; Sons Ltd.

Engine No. 534

When made 1932

Boilers made at

do.

By whom made

do

Boiler No. 534

When made 1932

Nominal Horse Power

493.

Owners

Compagnie de Navigation d'Alger

Port belonging to La Rochelle.

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

Manufacturers of Steel

Steel Company of Scotland

(Letter for Record S)

Total Heating Surface of Boilers

6214 sq ft

Is forced draught fitted

Y/N

Coal or Oil fired

Coal

No. and Description of Boilers

Two Single Ended Return Tube

Working Pressure 210 lb/sq in

Tested by hydraulic pressure to

365 lb

Date of test

18.4.32

No. of Certificate

191193

Can each boiler be worked separately

Y/N

Area of Firegrate in each Boiler

60 sq ft

No. and Description of safety valves to each boiler

2 Improved High Lift

Area of each set of valves per boiler

per Rule 8.54 sq in

as fitted 19.74 sq in

Pressure to which they are adjusted

Are they fitted with easing gear

Y/N

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

Y/N

Smallest distance between boilers or uptakes and bunkers or woodwork

hill clear

Is oil fuel carried in the double bottom under boilers

do.

Smallest distance between shell of boiler and tank top plating

Is the bottom of the boiler insulated

Y/N

Largest internal dia. of boilers

16' 6"

Length

12' 0"

Shell plates: Material

S

Tensile strength

29.33 tons

Thickness

1 1/2"

Are the shell plates welded or flanged

do.

Description of riveting: circ. seams

end DR overlap

long. seams DBS 38 stricks in pitch

Diameter of rivet holes in

circ. seams 1 9/16"

long. seams 1 9/16"

Pitch of rivets

4 3/4"

Percentage of strength of circ. end seams

plate 64.20

rivets 42.40

Percentage of strength of circ. intermediate seam

plate 85.75

rivets 89.40

Percentage of strength of longitudinal joint

plate 85.75

rivets 89.40

Working pressure of shell by Rules

210.

Thickness of butt straps

outer 5 1/2"

inner 1 9/16"

No. and Description of Furnaces in each Boiler

3 Deighton

Material

S

Tensile strength

26-30 tons

Smallest outside diameter

49 1/2"

Length of plain part

top

bottom

Thickness of plates

crown 23 3/32"

bottom 23 3/32"

Description of longitudinal joint

butt

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

Working pressure of furnace by Rules

214.

End plates in steam space: Material

S

Tensile strength

26-30 tons

Thickness

1 1/4"

Pitch of stays

20" x 16 3/4"

How are stays secured

Into inside &amp; outside

Working pressure by Rules

213.

Tube plates: Material

front

back

S

Tensile strength

26-30 tons

Thickness

29 1/2"

Mean pitch of stay tubes in nests

10 5/16"

Pitch across wide water spaces

13 3/4"

Working pressure

front 235.

back 260.

Girders to combustion chamber tops: Material

S

Tensile strength

28-32 tons

Depth and thickness of girder

at centre

10 1/2" x 1 3/4"

Length as per Rule

36 1/16"

Distance apart

10"

No. and pitch of stays

in each

3 @ 8 1/2"

Working pressure by Rules

225

Combustion chamber plates: Material

S

Tensile strength

26-30 tons

Thickness: Sides

23 3/32"

Back

11 1/16"

Top

23 3/32"

Bottom

29 1/32"

Pitch of stays to ditto: Sides

9" x 8 1/2"

Back

9" x 8 1/2"

Top

10" x 8 1/2"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

214

Front plate at bottom: Material

S

Tensile strength

26-30 tons

Thickness

29 1/32"

Lower back plate: Material

S

Tensile strength

26-30 tons

Thickness

29 1/32"

Pitch of stays at wide water space

13 3/4"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

210.

Main stays: Material

S

Tensile strength

28-32 tons

Diameter

At body of stay,

or

Over threads

3"

No. of threads per inch

6

Area supported by each stay

335 sq in

Working pressure by Rules

210.

Screw stays: Material

S

Tensile strength

26-30 tons

Diameter

At turned off part,

or

Over threads

1 5/8" x 1 3/4"

No. of threads per inch

9

Area supported by each stay

76.5 sq in



Working pressure by Rules 210 Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part 1 1/8 or 1 1/8 + 2 1/8 Over threads ✓

No. of threads per inch 9 Area supported by each stay 116 0" Working pressure by Rules 246

Tubes: Material Iron External diameter { Plain 2 3/4" Stay ✓ Thickness { 8 W.G. 5/16 3/8 1/2 No. of threads per inch 9 ✓

Pitch of tubes 4" x 3 1/8" Working pressure by Rules 242 Manhole compensation: Size of opening in shell plate None Section of compensating ring in end plate No. of rivets and diameter of rivet holes ✓

Outer row rivet pitch at ends ✓ Depth of flange 3 1/8" ✓ 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

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 ✓

ALEXANDER STEPHEN & SONS, LIMITED  
The foregoing is a correct description,  
Alex MacLellan Manufacturer.

Dates { During progress of work in shops - - } Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval)

while { During erection on board vessel - - } **SEE ACCOMPANYING MACHINERY REPORT.** Total No. of visits 14 6

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 and in accordance with the Rules. The materials and workmanship are good. They have been tested by hydraulic pressure and found tight and afterwards efficiently secured in position on board. The safety valves adjusted and the boiler examined under steam & found in order.

A.L.  
9/7/32

Survey Fee ... £ See Machinery Report When applied for 19

Travelling Expenses (if any) £ See Machinery Report When received 19

James Brown  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 12 JUL 1932

Assigned SEE ACCOMPANYING MACHINERY REPORT.