

## 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> Dec. 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'Orbigny

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

1294 ft<sup>2</sup>

Is forced draught fitted

No.

Coal or Oil fired

Coal.

No. and Description of Boilers

One Simple end return tube

Working Pressure 210 lbs.

Tested by hydraulic pressure to

365 lbs

Date of test

6.5.32.

No. of Certificate

19131.

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

45.5 ft<sup>2</sup>

No. and Description of safety valves to each boiler

2 Improved High Lift.

Area of each set of valves per boiler

{ per Rule 3.600"

{ as fitted 4.960"

Pressure to which they are adjusted

210

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

full clear

Is oil fuel carried in the double bottom under boilers

No.

Smallest distance between shell of boiler and tank top plating

Yes

Is the bottom of the boiler insulated

Yes.

Largest internal dia. of boilers

12'-0"

Length

10'-6"

Shell plates: Material

S

Tensile strength

29.33 Tons

Thickness

1 1/8"

Are the shell plates welded or flanged

No.

Description of riveting: circ. seams

{ end D.R. overlap

long. seams

DBS. 3 R. 5 with in pitch

Diameter of rivet holes in

{ circ. seams 1 3/16"

{ long. seams 1 3/16"

Pitch of rivets

{ 3 1/2"

{ 8 3/8"

Percentage of strength of circ. end seams

{ plate 68.2

{ rivets 42.5

Percentage of strength of circ. intermediate seam

{ plate

{ rivets

Percentage of strength of longitudinal joint

{ plate 85.8

{ rivets 90.0

{ combined 89.15

Working pressure of shell by Rules

214.

Thickness of butt straps

{ outer 2 1/2"

{ inner 3 1/2"

No. and Description of Furnaces in each Boiler

3 Doughton

Material

S

Tensile strength

26-30 tons

Smallest outside diameter

34"

Length of plain part

{ top

{ bottom

Thickness of plates

{ crown 1 1/2"

{ bottom 1 1/2"

Description of longitudinal joint

Weld.

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

Yes

Working pressure of furnace by Rules

211.

End plates in steam space: Material

S

Tensile strength

26-30 tons

Thickness

1 1/8"

Pitch of stays

17x16"

How are stays secured

Nuts inside &amp; outside

Working pressure by Rules

215.

Tube plates: Material

{ front S

{ back S

Tensile strength

{ 26-30 tons

Thickness

{ 6 1/4"

{ 3 1/4"

Mean pitch of stay tubes in nests

9 3/8"

Pitch across wide water spaces

14 1/2"

Working pressure

{ front 212

{ back 206.

Girders to combustion chamber tops: Material

S

Tensile strength

28-32 Tons

Depth and thickness of girder

at centre

9 1/4" x 13 1/2"

Length as per Rule

31 9/16"

Distance apart

10"

No. and pitch of stays

in each

3 @ 1 1/2"

Working pressure by Rules

216

Combustion chamber plates: Material

S

Tensile strength

26-30 tons

Thickness: Sides

1 1/8"

Back

1 1/8"

Top

1 1/8"

Bottom

1 1/8"

Pitch of stays to ditto: Sides

9 1/4" x 1 1/2"

Back

9 1/2" x 8"

Top

10" x 1 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

6 1/4"

Lower back plate: Material

S

Tensile strength

26-30 Tons

Thickness

2 1/2"

Pitch of stays at wide water space

14 1/2"

Are stays fitted with nuts or riveted over

Nuts

Working Pressure

219.

Main stays: Material

S

Tensile strength

28-32 tons

Diameter

{ At body of stay, 2 1/8"

{ Over threads 2 1/8"

No. of threads per inch

6

Area supported by each stay

2 1/2"

Working pressure by Rules

224

Screw stays: Material

S

Tensile strength

26-30 tons

Diameter

{ At turned off part, 1 3/8"

{ Over threads 1 3/8"

No. of threads per inch

9

Area supported by each stay

46"



Working pressure by Rules 239. Are the stays drilled at the outer ends No. ✓ Margin stays: Diameter { At turned off part or Over threads 1 1/8 + 2 1/8 ✓  
No. of threads per inch 9 Area supported by each stay 94" Working pressure by Rules 224.  
Tubes: Material Iron ✓ External diameter { Plain 3 1/2 ✓ Stay 3 1/2 ✓ Thickness { 8 WG 1/16 + 3/16 ✓ No. of threads per inch 9 ✓  
Pitch of tubes 4 3/4 x 4 3/8 ✓ Working pressure by Rules 230. Manhole compensation: Size of opening  
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 of manhole flanged 3 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 Working pressure by Rules Thickness of crown No. and diameter of Engine  
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 22 inclusive for boilers been complied with

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

Dates of Survey { During progress of work in shops - - - Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)  
while building { During erection on board vessel - - - SEE ACCOMPANYING MACHINERY REPORT. 46  
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.)  
This Boiler has been built under special Survey and in accordance with the Rules. The materials & workmanship are good. It has 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 ... £ 19 When applied for.  
Travelling Expenses (if any) £ 19 When received.

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

Committee's Minute GLASGOW 12 JUL 1932

Assigned SEE ACCOMPANYING MACHINERY REPORT.