

REPORT ON BOILERS.

No. 67793

Received at London Office

Date of writing Report

19

When handed in at Local Office

27. 12

19

Port of

Glasgow

No. in Survey held at

Reg. Book.

Glasgow & Greenock

Date, First Survey

8. 12. 42

Last Survey

16. 12.

1943

on the S.S. "PROSPECTOR"

(Number of Visits

64

Tons

Gross 6202

Net 3663

Built at Port Glasgow

By whom built

Messrs Lithgows Ltd

Yard No. 988

When built 1943

Engines made at

Glasgow

By whom made

D. Rowan & Co. Ltd.

Engine No. 1131

When made 1943

Boilers made at

-do-

By whom made

-do-

Boiler No. 1131

When made 1943

Nominal Horse Power

524

Owners

Chapente S.S. Co. Ltd.

Port belonging to

Liverpool

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Bolwell Ltd

(Letter for Record (r) ✓)

Total Heating Surface of Boilers

1242 ϕ

Is forced draught fitted

No

Coal or Oil fired

Coal

No. and Description of Boilers

One Single Ended

Working Pressure 120 lbs/sq"

Tested by hydraulic pressure to 230 lbs/sq"

Date of test

1-9-43

No. of Certificate 21499

Can each boiler be worked separately ✓

Area of Firegrate in each Boiler

35 ϕ

No. and Description of safety valves to each boiler Two - 2" Improved high lift

Area of each set of valves per boiler

per Rule 5.75

as fitted 6.28

Pressure to which they are adjusted 120 lbs

Are they fitted with easing gear

Yes

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

No

Smallest distance between boilers or uptakes and bunkers or woodwork

Is oil fuel carried in the double bottom under boilers

Smallest distance between shell of boiler and tank top plating

Boiler on upper Deck

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

12'-6"

Length

10'-6"

Shell plates: Material

Steel

Tensile strength 28/32 tons

Thickness

 $\frac{23}{32}$ "

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

 $\frac{13}{16}$ "

Pitch of rivets

2.367"

Percentage of strength of circ. end seams

plate 65.7

rivets 50.2

Percentage of strength of circ. intermediate seam

plate ✓

rivets ✓

Percentage of strength of longitudinal joint

plate 84.24

rivets 92.5

combined 91.6

Thickness of butt straps

outer $\frac{9}{16}$ "inner $\frac{11}{16}$ "

No. and Description of Furnaces in each Boiler

Two Plain

Material

Steel

Tensile strength

26/30 tons

Smallest outside diameter

3'-7 $\frac{1}{4}$ "

Length of plain part

top 6'-1 $\frac{3}{8}$ "bottom 6'-2 $\frac{3}{8}$ "

Thickness of plates

crown $\frac{5}{8}$ "bottom $\frac{5}{8}$ "

Description of longitudinal joint

Welded

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

End plates in steam space: Material

Steel

Tensile strength 26/30 tons

Thickness

1 $\frac{1}{16}$ "Pitch of stays 17 $\frac{1}{4}$ " x 23 $\frac{3}{4}$ "

How are stays secured

D.N.

Tube plates: Material

front Steel

back Steel

Tensile strength

26/30 tons

Thickness

 $\frac{13}{16}$ " $\frac{23}{32}$ "

Mean pitch of stay tubes in nests

12 $\frac{3}{16}$ "

Pitch across wide water spaces

14 $\frac{1}{2}$ "

Girders to combustion chamber tops: Material

Steel

Tensile strength 28/32 tons

Depth and thickness of girder

at centre 2 @ 4 $\frac{1}{4}$ " x $\frac{5}{8}$ "

Length as per Rule

2'-6 $\frac{23}{32}$ "

Distance apart

9 $\frac{7}{8}$ "

No. and pitch of stays

in each 2 @ 9 $\frac{3}{4}$ "

Combustion chamber plates: Material

Steel

Tensile strength

26/30 tons

Thickness: Sides

 $\frac{19}{32}$ "

Back

 $\frac{9}{16}$ "

Top

 $\frac{19}{32}$ "

Bottom

 $\frac{15}{16}$ "

Pitch of stays to ditto: Sides

9 $\frac{1}{4}$ " x 10 $\frac{1}{16}$ "

Back

9" x 9"

Top

9 $\frac{7}{8}$ " x 9 $\frac{3}{4}$ "

Are stays fitted with nuts or riveted over

Nuts

Front plate at bottom: Material

Steel

Tensile strength 26/30 tons

Thickness

 $\frac{13}{16}$ "

Lower back plate: Material

Steel

Tensile strength 26/30 tons

Thickness

 $\frac{5}{8}$ "

Pitch of stays at wide water space

13"

Are stays fitted with nuts or riveted over

Nuts

Main stays: Material

Steel

Tensile strength 28/32 tons

Diameter

At body of stay, or over threads

2 $\frac{1}{2}$ "

No. of threads per inch

6

Screw stays: Material

Iron

Tensile strength 21 $\frac{1}{2}$ tons

Diameter

At turned off part, or over threads

 $\frac{13}{8}$ "

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, *1 1/2" x 1 5/8"* or Over threads *1 1/2" x 1 5/8"*

No. of threads per inch *9*

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

Pitch of tubes *4 7/8" x 4 7/8"* Manhole compensation: Size of opening in shell plate *19" x 15"* Section of compensating ring *7" x 2 3/32"* No. of rivets and diameter of rivet holes *38 @ 1 5/16"*

Outer row rivet pitch at ends *5 15/16"* Depth of flange if manhole flanged *3"* 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 *None* 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 *Yes*

The foregoing is a correct description,
For David Rowan & Co. Ltd. Manufacturer.
Archd. H. Stevenson.

Dates of Survey { During progress of work in shops - - } *See attached* Are the approved plans of boiler and superheater forwarded herewith *Yes* while building { During erection on board vessel - - } *Machinery report* (If not state date of approval.)

Total No. of visits

Is this Boiler a duplicate of a previous case *Yes* If so, state Vessel's name and Report No. *"Trader" Glasgow Report No 63260*

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *This boiler has been built under special survey in accordance with the Rules and approved plans, and the materials and workmanship are good. It has been satisfactorily installed in the vessel and the safety valves have been adjusted to the working pressure.*

Survey Fee ... £ *See Machinery Rept.* When applied for, 19

Travelling Expenses (if any) £ : : When received, 19

A. J. Brown. & *Jas. Stevenson & M. Caldwell*
Engineer Surveyors to Lloyd's Register of Shipping.

Committee's Minute *GLASGOW* 11 JAN 1944

Assigned