

REPORT ON BOILERS.

No. 61012

APR 26 1939

Received at London Office

Date of writing Report

19

When handed in at Local Office

25. 4. 1939

Port of

Glasgow

No. in Reg. Book.

Survey held at

Glasgow

Date, First Survey

5. 8. 38

Last Survey

20. 4. 1939

on the

new s/s "ADVISER"

(Number of Visits

69)

Gross

6348

Tons

Net 3886

Master

Built at

Port Glasgow

By whom built

Lithgows Ltd

Yard No. 917

When built 1939

Engines made at

Glasgow

By whom made

David Rowan & Co Ltd

Engine No. 1039

When made 1939

Boilers made at

Glasgow

By whom made

David Rowan & Co Ltd

Boiler No. 1029

When made 1939

Nominal Horse Power

867

Owners

T & J Harrison

Port belonging to

Liverpool

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Steel Company of Scotland Ltd

(Letter for Record

r)

Total Heating Surface of Boilers

2805 sq ft

Is forced draught fitted

no

Coal or Oil fired

coal

No. and Description of Boilers

one single ended

Working Pressure

215

Tested by hydraulic pressure to

373

Date of test

10-1-39

No. of Certificate

20333

Can each boiler be worked separately

-

Area of Firegrate in each Boiler

69 sq ft

No. and Description of safety valves to each boiler

two spring loaded (ordinary)

Area of each set of valves per boiler

per Rule 15.244 sq ft

as fitted

16.59 sq ft

Pressure to which they are adjusted

220

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 or woodwork

2'3"

Is oil fuel carried in the double bottom under boilers

no

Smallest distance between shell of boiler and tank top plating

2'6"

Is the bottom of the boiler insulated

yes

Largest internal dia. of boilers

17'2"

Length

12'0"

Shell plates: Material

S

Tensile strength

31-35 tons

Thickness

1 3/4"

1 3/4"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end WR lap

inter. TR lap

long. seams

T.R. D.B.S.

Diameter of rivet holes in

circ. seams

F 1 1/4" C 1 1/8" B 1 1/8"

long. seams

port & back 1 1/8" B 1 1/8"

Pitch of rivets

F 3.7" C 4.658" B 4.658"

F 10 23/32" B 10 29/32" 10 29/32"

Percentage of strength of circ. end seams

plate F 61.1 B 65

rivets F 43 B 43.6

Percentage of strength of circ. intermediate seam

plate 65

rivets 63.8

Percentage of strength of longitudinal joint

plate F 84.03 B 84.52

rivets F 88.4 B 91.3

combined F 87.3 B 87.4

Working pressure of shell by Rules

216

Thickness of butt straps

outer F 1 1/2" B 1 3/8"

inner F 1 1/2" B 1 5/8"

No. and Description of Furnaces in each Boiler

Three Deighton

Material

S

Tensile strength

26-30 tons

Smallest outside diameter

4'-3 17/32"

Length of plain part

top

bottom

Thickness of plates

crown 49"

bottom 64"

Description of longitudinal joint

welded

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

none

Working pressure of furnace by Rules

218

End plates in steam space: Material

steel

Tensile strength

26-30 tons

Thickness

1 1/2"

Pitch of stays 20 1/2" x 22 3/4"

How are stays secured

19N

Working pressure by Rules

216

Tube plates: Material

front S

back "

Tensile strength

26-30 tons

Thickness

1"

Mean pitch of stay tubes in nests

12 3/16"

Pitch across wide water spaces

14 1/2"

Working pressure

front 226

back 215

Girders to combustion chamber tops: Material

S

Tensile strength

29-33 tons

Depth and thickness of girder

at centre

2 @ 11 x 7/8"

Length as per Rule

3 - 5 9/32"

Distance apart

9 1/4"

No. and pitch of stays

in each

4 @ 8 1/2"

Working pressure by Rules

215

Combustion chamber plates: Material

S

Tensile strength

26-30 tons

Thickness: Sides

23/32"

Back

23/32"

Top

23/32"

Bottom

1"

Pitch of stays to ditto: Sides

8 1/2" x 9 1/4"

Back

10 1/4" x 8"

Top

8 1/2" x 9 1/4"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

215

Front plate at bottom: Material

steel

Tensile strength

26-30 tons

Thickness

1"

Lower back plate: Material

steel

Tensile strength

26-30 tons

Thickness

29/32"

Pitch of stays at wide water space

15 9/8"

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,

or

Over threads

3 1/2" & 3 1/4"

No. of threads per inch

6

Area supported by each stay 482 sq in & 446 sq in

Working pressure by Rules

225 & 223

Screw stays: Material

Iron

Tensile strength

21 1/2 tons

Diameter

At turned off part,

or

Over threads

1 3/4" 2"

No. of threads per inch

9

Area supported by each stay 84 sq in & 98 sq in

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Working pressure by Rules 222 & 218 Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, or Over threads 2" & 2 1/4"
No. of threads per inch 9 Area supported by each stay 97.5 Working pressure by Rules 218
Tubes: Material Iron External diameter { Plain 3 1/2" Thickness { 2 W.S. No. of threads per inch 9
Pitch of tubes 4 1/8" x 4 1/8" Working pressure by Rules 260 Manhole compensation: Size of opening in
shell plate 16 x 20 Section of compensating ring 11 3/4" x 1 3/8" No. of rivets and diameter of rivet holes 36 @ 1 7/8"
Outer row rivet pitch at ends 10 23/32" Depth of flange if manhole flanged 3 1/4" 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 Smoke tube

Manufacturers of

In particulars see Gls. but. N° 372678 mech N° C. 91
copies herewith.
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 yes Is a safety valve fitted to every part of the superheater which can be shut off from the boiler yes
Area of each safety valve 1.76 sq" Are the safety valves fitted with easing gear yes Working pressure as per
Rules Pressure to which the safety valves are adjusted 230 Hydraulic test pressure:
tubes forgings and castings and after assembly in place 430 Are drain cocks or
valves fitted to free the superheater from water where necessary yes

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.
Arch. H. S. S. S. S.

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

Are the approved plans of boiler and superheater forwarded herewith yes
(If not state date of approval.)

SEE ACCOMPANYING MACHINERY REPORT

Is this Boiler a duplicate of a previous case yes If so, state Vessel's name and Report No. "Scientist" Gls Rpt. N° 60115

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

The materials and workmanship are good.
The boiler has been constructed under Special Survey, satisfactorily fitted
in the vessel and its safety valves adjusted under steam.

Gib
25/4/39

Survey Fee ... £

Travelling Expenses (if any) £

When applied for, 19

When received, 19

Sh. Davis

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 25 APR 1939

Assigned SEE ACCOMPANYING MACHINERY REPORT.



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