

## 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 steel S/S "ADVISER"

(Number of Visits

69)

Gross

6348

Tons

Net

3886

Master

Built at

Port Glasgow

By whom built

Lithgow &amp; Co

Yard No.

917

When built

1939

Engines made at

Glasgow

By whom made

David Rowan &amp; Co Ltd

Engine No.

1029

When made

1939

Boilers made at

Glasgow

By whom made

David Rowan &amp; Co Ltd

Boiler No.

1029

When made

1939

Nominal Horse Power

867

Owners

T &amp; J. Harrison

Port belonging to

Liverpool

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

Manufacturers of Steel

Steel Company of Scotland Ltd

(Letter for Record

T

Total Heating Surface of Boilers

10400 sq ft

Is forced draught fitted

no

Coal or Oil fired

coal

No. and Description of Boilers

Two double ended

Working Pressure

215

Tested by hydraulic pressure to

373

Date of test

10-1-39

No. of Certificate

20332

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

137.9 sq ft

No. and Description of safety valves to each boiler

2 opening loaded - ordinary

Area of each set of valves per boiler

per Rule 28.26 sq"

as fitted 28.36 sq"

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

21"

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

18'-6"

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

TR DBS

Diameter of rivet holes in

circ. seams F 1 1/4", C 1 7/8", B 1 5/8"

long. seams Ends 1 5/8", centre 1 1/2"

Pitch of rivets

F 3.7, C 4.658, B 4.656

Percentage of strength of circ. end seams

plate F 61.1, C 65, B 65

rivets F 43, C 63.8, B 43.6

Percentage of strength of circ. intermediate seam

plate

65

rivets

63.8

Percentage of strength of longitudinal joint

plate Ends 84.3, Centre 84.52

rivets Ends 88.4, Centre 91.3

Working pressure of shell by Rules

215

Thickness of butt straps

outer F 1 7/8", C 1 3/4"

inner F 1 7/8", C 1 5/8"

No. and Description of Furnaces in each Boiler

Six Deighton

Material

S

Tensile strength

26-30 tons

Smallest outside diameter

51.53"

Length of plain part

top

bottom

Thickness of plates

crown

bottom

49"

Description of longitudinal joint

welded

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

Working pressure of furnace by Rules

219

End plates in steam space: Material

S

Tensile strength

26-30 tons

Thickness

1 15/32"

Pitch of stays

20 1/2" x 22 7/8"

How are stays secured

DN

Working pressure by Rules

216

Tube plates: Material

front steel

back steel

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 227

back 220

Girders to combustion chamber tops: Material

Steel

Tensile strength

29-33 tons

Depth and thickness of girder

at centre 2 @ 12 1/2" x 7/8"

Length as per Rule

47.875"

Distance apart

9 1/4"

No. and pitch of stays

in each

4 @ 9 1/4"

Working pressure by Rules

219

Combustion chamber plates: Material

S

Tensile strength

26-30 tons

Thickness: Sides

4 1/4"

Back

-

Top

4 1/4"

Bottom

1"

Pitch of stays to ditto: Sides

9 1/4" x 9 1/4"

Back

-

Top

9 1/4" x 9 1/4"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

222

Front plate at bottom: Material

S

Tensile strength

26-30 tons

Thickness

1"

Lower back plate: Material

-

Tensile strength

-

Thickness

-

Pitch of stays at wide water space

Are stays fitted with nuts or riveted over

Working Pressure

Main stays: Material

S

Tensile strength

28-32 tons

Diameter

At body of stay, 3 1/2" &amp; 3 1/4"

or

Over threads

No. of threads per inch

6

Area supported by each stay

482 sq" &amp; 416 sq"

Working pressure by Rules

225 &amp; 223

Screw stays: Material

Iron

Tensile strength

21 1/2 tons

Diameter

At turned off part, 1 3/4"

or

Over threads

No. of threads per inch

9

Area supported by each stay

83.1

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Working pressure by Rules 218 Are the stays drilled at the outer ends - Margin stays: Diameter { At turned off part, -  
or -  
Over threads -

No. of threads per inch - Area supported by each stay - Working pressure by Rules -

Tubes: Material Iron External diameter { Plain 3 1/2"  
Stay 3 1/2" Thickness { 7 w.g. 5/16 3/8 7/16 No. of threads per inch 9

Pitch of tubes 4 7/8" x 4 7/8" 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 33/64" No. of rivets and diameter of rivet holes 36 @ 1 5/8"

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

For particulars see Glob at N° 37267 & Ind. C. 91  
Steel forgings copied attached  
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 223 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 Rowland & Co. Ltd.  
Archd. H. Gurnson Manufacturer.

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.)

Total No. of rivets

SEE ACCOMPANYING MACHINERY REPORT

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

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

The materials and workmanship are good.The boilers have been constructed under Special Survey, satisfactorily  
fitted in the vessel and their safety valves adjusted under steam.

26  
25/4/39

Survey Fee ... .. £

Travelling Expenses (if any) £

When applied for, 19

When received, 19

L. H. Davis  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 25 APR 1939Assigned SEE ACCOMPANYING MACHINERY REPORT

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