

REPORT ON BOILERS.

No. 60115

Received at London Office

Date of writing Report

19

When handed in at Local Office

27. 8. 1938

Port of Glasgow

No. in Reg. Book

Survey held at

Glasgow

Date, First Survey

Last Survey

18-8-1938

(Number of Visits)

Tons

Gross

Net

6199
3794

Master

Built at

Port Glasgow

By whom built

Lithgows Ltd

Yard No.

911 When built 1938

Engines made at

Glasgow

By whom made

David Rowan & Co Ltd

Engine No.

1023 When made 1938

Boilers made at

Glasgow

By whom made

David Rowan & Co Ltd

Boiler No.

1023 When made 1938

Nominal Horse Power

867 (including extra tank)

Owners

T & J. Harrison

Port belonging to

Liverpool

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Steel Co of Scotland Ltd & Galloway Ltd (Letter for Record)

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 21-5-38 No. of Certificate 20195 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 spring loaded ordinary

Area of each set of valves per boiler {per Rule 28.26 sq" as fitted 28.26 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

Minimum largest internal dia. of boilers 17'-2" Length 18'-6" Shell plates: Material steel Tensile strength 31-35 tons

Thickness 1 33/64 1 35/64 Are the shell plates welded or flanged no Description of riveting: circ. seams {end WR lap inter. TR lap

Long. seams TR WR Diameter of rivet holes in {circ. seams F 1 1/16 C 1 9/16 B 1 7/8 long. seams Ends 1 7/8 centre 1 1/2 Pitch of rivets {Ends 10 33/32 centre 10 29/32

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 84.53 centre 84.52 rivets Ends 88.4 centre 91.3 Working pressure of shell by Rules 215

Thickness of butt straps {outer E 1 5/32 C 1 3/16 inner E 1 9/32 C 1 5/16 No. and Description of Furnaces in each Boiler Six Deighton

Material steel Tensile strength 26-30 tons Smallest outside diameter 54'-53"

Length of plain part {top 49" bottom 64" Thickness of plates {crown 49" bottom 64" 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 steel Tensile strength 26-30 tons Thickness 1 15/32" Pitch of stays 20 5/8 x 22 3/4"

How are stays secured WR Working pressure by Rules 216

End plates: Material {front steel back steel Tensile strength {26-30 tons Thickness {1" 1 1/16"

Lean pitch of stay tubes in nests 12 3/16" Pitch across wide water spaces 14 1/2" Working pressure {front 227 back 220

Orders to combustion chamber tops: Material steel Tensile strength 29-33 tons Depth and thickness of girder

centre 2 @ 12 1/2 x 1 1/8" Length as per Rule 47.875" Distance apart 9 1/4" No. and pitch of stays

each 4 @ 9 1/4" Working pressure by Rules 224 219 Combustion chamber plates: Material steel

Tensile strength 26-30 tons Thickness: Sides 4 1/64" Back - Top 4 1/64" 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 steel Tensile strength 26-30 tons

Thickness 1" Lower back plate: Material - Tensile strength - Thickness -

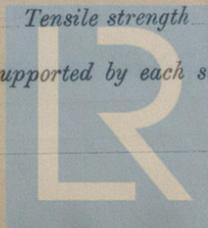
Pitch of stays at wide water space - Are stays fitted with nuts or riveted over -

Working Pressure - Main stays: Material steel Tensile strength 28-32 tons

At body of stay, or Over threads 3 1/2 x 3/4" No. of threads per inch 6 Area supported by each stay 482 sq" & 416 sq"

Working pressure by Rules 225 & 223 Screw stays: Material Iron Tensile strength 21 1/2 tons

At turned off part, or Over threads 1 3/4" No. of threads per inch 9 Area supported by each stay 83-1 sq"



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** Thickness { **7 W.S.** No. of threads per inch **9** Stay **3 1/2**

Pitch of tubes **4 1/8" 4 1/8"** Working pressure by Rules **260** Manhole compensation: Size of opening -

shell plate **16 x 20** Section of compensating ring **11 3/4 x 1 3/4** 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 **3/4** Steam Dome: Material **Iron**

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 rivets -

stays - Inner radius of crown - Working pressure by Rules - Diameter of rivet holes and pitch -

How connected to shell - Size of doubling plate under dome -

of rivets in outer row in dome connection to shell -

Type of Superheater **Smoke tube (sugden)** Manufacturers of **For particulars see Gl. Ser. No. 36122 by spec attached**

Number of elements - Material of tubes - Internal diameter and thickness of tubes -

Material of headers - Tensile strength - Thickness - Can the superheater be shut off at -

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 -

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 **A30** Are drain cocks -

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
 Arch. H. Grierson

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

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

SEE ACCOMPANYING MACHINERY REPORT.

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.)

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.

9th
 24.8.35

Survey Fee ... £ **See Machinery Report** When applied for, 19
 Travelling Expenses (if any) £ : : When received, 19

W. Davis
 Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute **GLASGOW 30 AUG 1938**

Assigned **SEE ACCOMPANYING MACHINERY REPORT.**

Lloyd's Register Foundation