

REPORT ON BOILERS.

No. 49634

Received at London Office

13 NOV 1929

Date of writing Report

192

When handed in at Local Office

1929

Port of

Glasgow

No. in
Reg. Book.

Survey held at

Glasgow

Date, First Survey

22. 5. 29

Last Survey

7-11-29

1929

(Number of Visits

58)

Gross

2743

Tons

Net 1381

Master

Built at

Dumbarton

By whom built

Arch McMillan & Co Ltd

Yard No.

865

When built

1929

Engines made at

Glasgow

By whom made

David Rowan & Co Ltd

Engine No.

914

When made

1929

Boilers made at

Glasgow

By whom made

David Rowan & Co Ltd

Boiler No.

914

When made

1929

Nominal Horse Power

418

Owners

Messrs SS Co

Port belonging to

Liverpool

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel *Vereinigte Stahlwerke A.G. Stahl & Walzwerke Thyssen of Mulheim Ruhr*
James Dunlop & Co Ltd. Steel Company of Scotland, Scottish Iron & Steel Co (Letter for Record (S))

Total Heating Surface of Boilers *4420 sq ft* Is forced draught fitted *yes* Coal or Oil fired *coal*

No. and Description of Boilers *two single ended marine 2 SB.* Working Pressure *200*

Tested by hydraulic pressure to *350* Date of test *19-29 4-10-29* No. of Certificate *18439, 18454* *STBR PORT* *STBR PORT* *an each boiler be worked separately yes*

Area of Firegrate in each Boiler *56 1/2 sq ft* No. and Description of safety valves to each boiler *two direct spring*

Area of each set of valves per boiler *per Rule 12.8480"* *as fitted 14.120"* Pressure to which they are adjusted *205* 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 *14"* 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 *14'-6"* Length *11'-0"* Shell plates: Material *steel* Tensile strength *29-33 tons*

Thickness *1 3/32"* Are the shell plates welded or flanged *no* Description of riveting: circ. seams *end WR*

long. seams *WR S T R* Diameter of rivet holes in *circ. seams F 1 3/16" B 1 5/16"* *long. seams 1 3/8"* Pitch of rivets *F 3.183 B 3.671*

Percentage of strength of circ. end seams *plate F 62.7 B 64.2* *rivets F 43 B 45.7* Percentage of strength of circ. intermediate seam *plate*

Percentage of strength of longitudinal joint *plate 85.23* *rivets 92.7* *combined 88.9* Working pressure of shell by Rules *201*

Thickness of butt straps *outer 3 1/32"* *inner 1 3/32"* No. and Description of Furnaces in each Boiler *Three Weighon 3 c/f 1 1/2 ft*

Material *steel* Tensile strength *26-30 tons* Smallest outside diameter *42 5/32"*

Length of plain part *top* *bottom* Thickness of plates *crowns 3 3/4"* *bottom 6 1/4"* Description of longitudinal joint *welded beam*

Dimensions of stiffening rings on furnace or c.c. bottom *yes* Working pressure of furnace by Rules *200*

End plates in steam space: Material *steel* Tensile strength *26-30 tons* Thickness *1 1/2"* Pitch of stays *18 1/8" x 20"*

How are stays secured *W.N.* Working pressure by Rules *201*

Tube plates: Material *front steel* *back* Tensile strength *26-30 tons* Thickness *2 1/32"* *2 3/32"*

Mean pitch of stay tubes in nests *9 1/2"* Pitch across wide water spaces *13 1/2"* Working pressure *front 204* *back 215*

Girders to combustion chamber tops: Material *steel* Tensile strength *28-32 tons* Depth and thickness of girder

at centre *2 @ 7 1/8" x 7 1/8"* Length as per Rule *29 5/8"* Distance apart *8 3/4"* No. and pitch of stays

in each *2 @ 9 3/8"* Working pressure by Rules *201* Combustion chamber plates: Material *steel*

Tensile strength *26-30 tons* Thickness: Sides *2 3/32"* *Back 2 1/32"* *Top 2 3/32"* *Bottom 2 3/32"*

Pitch of stays to ditto: Sides *9 3/8" x 8 5/8"* *Back 9 1/4" x 8"* *Top 9 3/8" x 8 3/4"* Are stays fitted with nuts or riveted over *nuts*

Working pressure by Rules *200* Front plate at bottom: Material *steel* Tensile strength *26-30 tons*

Thickness *2 1/32"* Lower back plate: Material *steel* Tensile strength *26-30 tons* Thickness *2 5/32"*

Pitch of stays at wide water space *13 1/2" x 8"* Are stays fitted with nuts or riveted over *nuts*

Working Pressure *201* Main stays: Material *steel* Tensile strength *28-32 tons*

Diameter *At body of stay, or Over threads 3" & 2 3/4"* No. of threads per inch *6* Area supported by each stay *376 & 325 sq in*

Working pressure by Rules *209 & 201* Screw stays: Material *steel* Tensile strength *26-30 tons*

Diameter *At turned off part, or Over threads 1 7/8" & 1 3/4"* No. of threads per inch *9* Area supported by each stay *82 & 74 sq in*

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Working pressure by Rules 269 & 245 Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, or Over threads 2" & 1 7/8"
No. of threads per inch 9 Area supported by each stay 91 sq" & 107.5 sq" Working pressure by Rules 234 & 230
Tubes: Material Iron External diameter { Plain 2 1/2" Stay 2 1/2" Thickness { 8 W.G. 1 5/16" 3/8" 1 1/8" No. of threads per inch 9
Pitch of tubes 23 1/4" x 3 5/8" Working pressure by Rules 300 Manhole compensation: Size of opening in
shell plate 15 1/2" x 19 1/2" Section of compensating ring 9 1/2" x 1 9/32" No. of rivets and diameter of rivet holes 32 @ 1 3/8"
Outer row rivet pitch at ends 9 5/16" Depth of flange if manhole flanged 3" Steam Dome: Material none
Tensile strength 208 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 8 1/4" Diameter of rivet holes and pitch
of rivets in outer row in dome connection to shell

Type of Superheater none 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 yes

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

Dates of Survey { During progress of work in shops - - - See accompanying machy Report
while building { During erection on board vessel - - -
Total No. of visits 58

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 in accordance with
the Rules, satisfactorily fitted in the vessel and their safety valves adjusted
under steam

Survey Fee ... £ : When applied for, 192
Travelling Expenses (if any) £ : When received, 192

Committee's Minute GLASGOW 12 NOV 1929
Assigned See Accompanying machy Report
Engineer Surveyor to Lloyd's Register of Shipping.