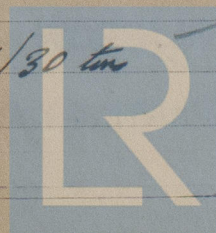


pt. 5a. 8-29
REPORT ON BOILERS. No. 63492
FEB 19 1941
Received at London Office
When handed in at Local Office 18: 2: 1941 Port of GLASGOW
No. in Survey held at Glasgow Date, First Survey 18: 7: 40 Last Survey 6th Feb. 1941
on the S/S "EMPIRE STREAM" Tons Gross 2922 Net 1638
Built at Glasgow By whom built Lithgows' Ltd. Yard No. 948 When built 1941
Engines made at Glasgow By whom made David Rowan & Co. Ltd. Engine No. 1073 When made 1941
Boilers made at do- By whom made do- Boiler No. 1073 When made 1941
Nominal Horse Power 244 Owners Ministry of Shipping Port belonging to

ULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel The Steel Co. of Scotland (Letter for Record S
Total Heating Surface of Boilers 3434 Is forced draught fitted Yes Coal or Oil fired Coal
No. and Description of Boilers 2 Single-ended Working Pressure 200 lb.
Tested by hydraulic pressure to 350 lb. Date of test 13-11-40 No. of Certificate 20667 Can each boiler be worked separately Yes
Area of Firegrate in each Boiler 50.5 No. and Description of safety valves to each boiler 1-2 3/4 inch
Area of each set of valves per boiler (per Rule 9.90" (as fitted 11.860" Pressure to which they are adjusted 200 lb. 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 5'-10" Is oil fuel carried in the double bottom under boilers No
Smallest distance between shell of boiler and tank top plating 3'-10" Is the bottom of the boiler insulated Yes
Largest External dia. of boilers 13'-3" Length 11'-6" Shell plates: Material Steel Tensile strength 29/83 tons
Thickness 1 5/32" Are the shell plates welded or flanged No Description of riveting: circ. seams (end Double (inter. -
Long. seams DBS TR Diameter of rivet holes in (circ. seams 1 3/16" (long. seams 1 3/16" Pitch of rivets { 3-2" 8 3/16"
Percentage of strength of circ. end seams { plate 62.9 rivets 47.7 Percentage of strength of circ. intermediate seam { plate 85.4 rivets 86.7
Percentage of strength of longitudinal joint { plate 85.4 rivets 86.7 combined 88.3
Thickness of butt straps { outer 7/8" inner 1" No. and Description of Furnaces in each Boiler 3 Leighton
Material steel Tensile strength 26/30 tons Smallest outside diameter 3'-2 1/16"
Length of plain part { top 17 1/32" bottom 17 1/32" Thickness of plates { crown 17 1/32" bottom 17 1/32" Description of longitudinal joint welded
Dimensions of stiffening rings on furnace or c.c. bottom
End plates in steam space: Material steel Tensile strength 26/30 tons Thickness 1 1/16" Pitch of stays 15" x 18"
How are stays secured DN
Tube plates: Material { front steel back steel Tensile strength 26/30 tons Thickness { 29/32" 3/4"
Lean-pitch of stay tubes in nests 9.62" Pitch across wide water spaces 14"
Riders to combustion chamber tops: Material steel Tensile strength 28/32 tons Depth and thickness of girder
Centre 2 @ 8 1/4" x 7/8" Length as per Rule 2-9 19/32 Distance apart 8" No. and pitch of stays
Each 3 @ 8 1/4"
Combustion chamber plates: Material steel
Tensile strength 26/30 tons Thickness: Sides 1 1/16" Back 2 1/32" Top 1 1/16" Bottom 1 1/16"
Pitch of stays to ditto: Sides 8 1/4" x 9" Back 8" x 9 1/4" Top 8" x 8 1/4" Are stays fitted with nuts or riveted over Nuts
Front plate at bottom: Material steel Tensile strength 26/30 tons
Thickness 29/32" Lower back plate: Material steel Tensile strength 26/30 tons Thickness 25/32"
Pitch of stays at wide water space 13 1/2" Are stays fitted with nuts or riveted over Nuts
Main stays: Material steel Tensile strength 28/32 tons
Diameter { At body of stay, 2 1/2" No. of threads per inch 6
Over threads
Crew stays: Material steel Tensile strength 26/30 tons
Diameter { At turned off part, 1 5/8" No. of threads per inch 9
Over threads



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Are the stays drilled at the outer ends *no* Margin stays: Diameter { At turned off part, *1 9/16"* or Over threads *1 9/16"*

No. of threads per inch *9*

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

Pitch of tubes *4 1/8" x 4 1/4"* Manhole compensation: Size of opening in shell plate *-* Section of compensating ring *-* No. of rivets and diameter of rivet holes *-*

Outer row rivet pitch at ends *-* Depth of flange if manhole flanged *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 *-* Thickness of crown *-* No. and diameter of stays *-*

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.
Arch. W. Grierson

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 *18-4-40* (If not state date of approval.)

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.) *These boilers have been built under special survey in accordance with the Rules and approved plans, and the materials and workmanship are good. They have been satisfactorily installed in the vessel and the safety valves have been adjusted to the working pressure.*

Rob
18/2/41

Survey Fee ... £ *See main report* When applied for, 19
Travelling Expenses (if any) £ *See main report* When received, 19

W. J. Brown
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **GLASGOW 18 FEB 1941**
Assigned **SEE ACCOMPANYING MACHINERY REPORT.**



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Rpt. 13.

Date of writ

No. in Reg. 1

88008

Built at

Owners

Electrical

Is vessel

Have plans

Heating

has the gov

trip switch

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