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## REPORT ON BOILERS.

No. 55948

24 JUL 1935

Received at London Office

Writing Report 10 When handed in at Local Office 17. 7. 1935 Port of Glasgow

in Survey held at Glasgow Date, First Survey 1. 3. 35 Last Survey 10. 7. 1935

on the new steel ship AURETTA (Number of Visits 32) Tons { Gross Net

Built at Burntisland By whom built Burntisland SBCo. Ltd. Yard No. 86 When built 1935

Engines made at Glasgow By whom made David Rowan & Co. Ltd. Engine No. 980 When made 1935

Boilers made at Glasgow By whom made David Rowan & Co. Ltd. Boiler No. 980 When made 1935

Indicated Horse Power 283 Owners Port belonging to

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

Manufacturers of Steel Lochmills Ltd. (Letter for Record (S) ✓)

Heating Surface of Boilers 3300 sq ft Is forced draught fitted yes Coal or Oil fired coal

Description of Boilers Two single ended Working Pressure 220 lb

Tested by hydraulic pressure to 380 Date of test 6. 6. 35 No. of Certificate 19352 Can each boiler be worked separately yes

Area of Firegrate in each Boiler 40.5 sq ft No. and Description of safety valves to each boiler Improved high lift 1 3/4"

No. of each set of valves per boiler { per Rule 4. 388 9" as fitted 4. 8 10" Pressure to which they are adjusted 220 lb Are they fitted with easing gear yes

Use of donkey boilers, state whether steam from main boilers can enter the donkey boiler —

Least distance between boilers or uptakes and bunkers or woodwork 18" Is oil fuel carried in the double bottom under boilers No

Least distance between shell of boiler and tank top plating 2'-6" Is the bottom of the boiler insulated yes

Least internal dia. of boilers 13'-0" Length 11'-6" Shell plates: Material Steel Tensile strength 29-33 tons

Thickness 1 1/4" Are the shell plates welded or flanged no Description of riveting: circ. seams { end DR inter. r

Seams WBS TR Diameter of rivet holes in { circ. seams F 1 3/16 B 1 5/16 long. seams 1 5/16 Pitch of rivets { F 3.169 B 3.6

Percentage of strength of circ. end seams { plate F 62.5 B 63.5 rivets F 44.2 B 47.1 Percentage of strength of circ. intermediate seam { plate rivets ✓

Percentage of strength of longitudinal joint { plate 85.4 rivets 90.7 combined 88.9 Working pressure of shell by Rules 223 lb

Thickness of butt straps { outer 1 1/16 inner 1 1/16 No. and Description of Furnaces in each Boiler Three Deighton

Material Steel Tensile strength 26-30 tons Smallest outside diameter 3'-1 1/8"

Length of plain part { top bottom Thickness of plates { crown 9" bottom 7 1/2" Description of longitudinal joint welded

Dimensions of stiffening rings on furnace or c.c. bottom — Working pressure of furnace by Rules 220 lb

Plates in steam space: Material Steel Tensile strength 26-30 tons Thickness 1 9/32" Pitch of stays 15 1/2" x 18"

Are stays secured 19 N Working pressure by Rules 221 lb

Stays: Material { front steel back " Tensile strength { 26-30 tons Thickness { 1 5/16 2 7/32

Pitch of stay tubes in nests 9.7" Pitch across wide water spaces 14" Working pressure { front 229 back 232

Access to combustion chamber tops: Material Steel Tensile strength 28-32 tons Depth and thickness of girder

Centre 2 @ 7 7/8" x 7/8" Length as per Rule 2'-7 1/2" Distance apart 8" No. and pitch of stays

Each 2 @ 10" Working pressure by Rules 223 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 8" x 10" Back 8 1/2" x 8" Top 8" x 10" Are stays fitted with nuts or riveted over nuts

Working pressure by Rules 220 Front plate at bottom: Material steel Tensile strength 26-30 tons

Thickness 1 5/16" Lower back plate: Material steel Tensile strength 26-30 tons Thickness 1 3/16"

Pitch of stays at wide water space 13 7/16" Are stays fitted with nuts or riveted over nuts

Working Pressure 220 Main stays: Material steel Tensile strength 28-32 tons

At body of stay, 2 3/4" No. of threads per inch 6 Area supported by each stay 282 sq"

Over threads Working pressure by Rules 232 Screw stays: Material steel Tensile strength 26-30 tons

At turned off part, 1 5/8" 1 3/4" 1 7/8" No. of threads per inch 9 Area supported by each stay 68 sq", 82.5 sq", 93.5 sq"

Over threads

W230-0296



Working pressure by Rules 220 lb Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, or Over threads 1 3/4"  
No. of threads per inch 9 Area supported by each stay 82.5" Working pressure by Rules 220 lb  
Tubes: Material Iron External diameter { Plain 3" Stay 3" Thickness { 8/16" 9/16" 7/8" 1" No. of threads per inch 9  
Pitch of tubes 4 1/8" x 4 3/16" Working pressure by Rules 250 Manhole compensation: Size of opening 15 1/2" x 19 1/2"  
Section of compensating ring 12 1/2" x 1 1/4" No. of rivets and diameter of rivet holes 34 @ 15/16"  
Outer row rivet pitch at ends 9" Depth of flange if manhole flanged 3" 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 diam stays \_\_\_\_\_  
Inner radius of crown \_\_\_\_\_ Working pressure by Rules \_\_\_\_\_  
How connected to shell \_\_\_\_\_ Size of doubling plate under dome \_\_\_\_\_ Diameter of rivet holes and of rivets in outer row in dome connection to shell \_\_\_\_\_

Type of Superheater Smoke tube Manufacturers of { Particulars see Nuc Cert C2750 Steel castings copy furnished  
Number of elements \_\_\_\_\_ Material of tubes \_\_\_\_\_ Internal diameter and thickness of tubes \_\_\_\_\_  
Material of headers \_\_\_\_\_ Tensile strength \_\_\_\_\_ Thickness \_\_\_\_\_ Can the superheater be shut off the boiler be worked separately no 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 1.770" Are the safety valves fitted with easing gear yes Working pressure 225 lbs  
Rules \_\_\_\_\_ Pressure to which the safety valves are adjusted 225 lbs Hydraulic test pressure \_\_\_\_\_  
tubes \_\_\_\_\_, castings \_\_\_\_\_ and after assembly in place 440 lbs Are drain cocks or valves 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

Dates { During progress of work in shops - - } Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval)  
while building { During erection on board vessel - - }  
SEE ACCOMPANYING MACHINERY REPORT

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 boiler has been constructed under Special Survey and is being sent to Burntisland to be fitted in the vessel.  
17/7/35

The boilers have been efficiently fitted on board, examined under steam safety valves adjusted & found satisfactory  
CR

Survey Fee £ See minute Rpt When applied for, 19  
Travelling Expenses (if any) £ \_\_\_\_\_ When received, 19

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

Committee's Minute GLASGOW 23 JUL 1935 7.5. m  
Assigned SEE ACCOMPANYING MACHINERY REPORT.  
TUE. 24 SEP 1935  
See minute on 28.8.35  
Lloyd's Register Foundation