

REPORT ON BOILERS.

Received at London Office 17 FEB 1937

Date of writing Report 19 When handed in at Local Office 15. 2. 1937 Port of Glasgow

No. in Reg. Book. Survey held at Glasgow Date, First Survey 12. 11. 36 Last Survey 11-2-1937

(Number of Visits 10) Gross Tons 662 Net Tons 284

on the S/S "DONAGHADEE"

Master Built at Glasgow By whom built A & J Inglis Ltd Yard No. 998 When built 1937

Engines made at Hydebank By whom made Aitchison Blair Ltd Engine No. 207 When made 1937

Boilers made at Glasgow By whom made David Rowan & Co Ltd Boiler No. 425 When made 1937

Nominal Horse Power 104 Owners John Kelly Ltd Port belonging to Belfast

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

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

Total Heating Surface of Boilers 1834 sq ft ✓ Is forced draught fitted no ✓ Coal or Oil fired coal ✓

No. and Description of Boilers one single ended ✓ 150 Working Pressure 200 ✓

Tested by hydraulic pressure to 350 Date of test 11-2-37 No. of Certificate 19894 Can each boiler be worked separately -

Area of Firegrate in each Boiler 56.4 sq ft No. and Description of safety valves to each boiler Two ordinary spring loaded

Area of each set of valves per boiler (per Rule 10.690" as fitted 11.880" Pressure to which they are adjusted 200 lbs 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 on woodwork 4'-0" ✓ Is oil fuel carried in the double bottom under boilers

Smallest distance between shell of boiler and tank top plating Is the bottom of the boiler insulated

Largest internal dia. of boilers 14'-0" ✓ Length 10'-6" ✓ Shell plates: Material steel ✓ Tensile strength 29-33 tons

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

long. seams DBS TR ✓ Diameter of rivet holes in {circ. seams F 1 3/16" B 1 5/16" ✓ Pitch of rivets {F 3-2 B 3-57 ✓ 1 7/16" 8 3/4" ✓

Percentage of strength of circ. end seams {plate F 62.9 B 63.2 rivets F 43.8 B 48.2 ✓ Percentage of strength of circ. intermediate seam {plate rivets ✓

Percentage of strength of longitudinal joint {plate 85 rivets 91.5 combined 88.4 ✓ Working pressure of shell by Rules 202

Thickness of butt straps {outer 6 1/4" inner 5 1/4" ✓ No. and Description of Furnaces in each Boiler Three Heighton 30% ✓

Material steel Tensile strength 26-30 tons ✓ Smallest outside diameter 42.156" ✓

Length of plain part {top bottom ✓ Thickness of plates {crown 37" bottom 64" ✓ Description of longitudinal joint welded ✓

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 199

End plates in steam space: Material steel Tensile strength 26-30 tons Thickness 1 3/16" Pitch of stays 19 3/4" x 16 1/4"

How are stays secured DN Working pressure by Rules 200

Tube plates: Material {front steel back " Tensile strength {26-30 tons " Thickness {29 3/32" 25 3/32" ✓

Mean pitch of stay tubes in nests 10 3/32" Pitch across wide water spaces 14 1/4" Working pressure {front 202 back 214 ✓

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

at centre 2 @ 7 3/4" x 7 1/8" Length as per Rule 31.5625 Distance apart 9" No. and pitch of stays

in each 2 @ 10" Working pressure by Rules 204 Combustion chamber plates: Material steel

Tensile strength 26-30 tons Thickness: Sides 28 3/32" Back 21 3/32" Top 23 3/32" Bottom 23 3/32" ✓

Pitch of stays to ditto: Sides 9 x 10" Back 9 1/4 x 8" Top 9 x 10" 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 29 3/32" Lower back plate: Material steel Tensile strength 26-30 tons Thickness 25 3/32" ✓

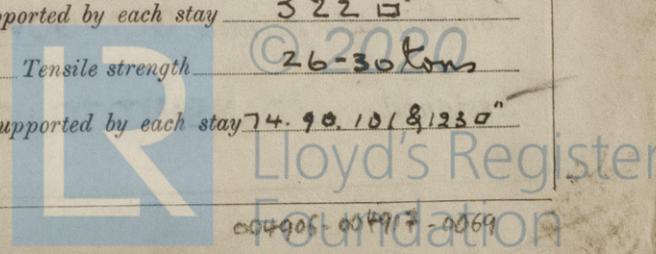
Pitch of stays at wide water space 13 1/2" Are stays fitted with nuts or riveted over nuts

Working Pressure 200 Main stays: Material steel Tensile strength 28-32 tons

Diameter {At body of stay, 2 3/4" or Over threads No. of threads per inch 6 Area supported by each stay 322 sq" ✓

Working pressure by Rules 203 Screw stays: Material S Tensile strength 26-30 tons ✓

Diameter {At turned off part, 1 7/8", 1 3/4", 1 1/8", 1/2" or Over threads No. of threads per inch 9 Area supported by each stay 74.90.101 & 1230" ✓



Working pressure by Rule 205, 205, 211 & 100 Are the stays drilled at the outer ends no Margin stays: Diameter ^{At turned off part,} _{or} 1 3/4"
 No. of threads per inch 9 Area supported by each stay 90.20" Working pressure by Rules 201
 Tubes: Material Steel External diameter ^{Plain} 3/4" Thickness ^{8 WS} 5/16" & 3/8" No. of threads per inch 9
 Pitch of tubes 4 3/8" x 4 3/8" Working pressure by Rules 230 Manhole compensation: Size of opening in
 shell plate 19 1/2" x 15 1/2" Section of compensating ring 9 1/2" x 1 9/16" No. of rivets and diameter of rivet holes 34 @ 1 5/16"
 Outer row rivet pitch at ends 9 1/8" 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 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 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 _____

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

Dates of Survey ^{During progress of} 1936 Nov: 12 Dec: 2, 10, 21, 23 Are the approved plans of boiler and superheater forwarded herewith yes
_{work in shops - - -} (If not state date of approval.)
^{while} (1937) Jan: 11, 12 Feb: 5, 10, 11 Total No. of visits 10
_{building} ^{board vessel - - -}

Is this Boiler a duplicate of a previous case yes If so, state Vessel's name and Report No. "Grossgan" E.S. Rpt. N° 57368.

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. It will be fitted on board
the vessel at Glasgow.
15/2/37

Glasgow 13-9-37 - The boiler has been satisfactorily fitted in the vessel
 and its safety valves adjusted under steam.
 See E.S. Rpt. N° 58845.
 H.D.

Survey Fee £ 12 : 4 : } When applied for, 16 FEB 1937
 Travelling Expenses (if any) £ : : } When received, 19 37
(per Lm. ltr.)

Schdavis
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 16 FEB 1937
 Assigned TRANSMIT TO LONDON

GLASGOW 15 SEP 1937
See E.S. Rpt. No 58845

