

REPORT ON BOILERS.

Received at London Office 10 FEB 1937

Date of writing Report 19 37 When handed in at Local Office 1-2-37 Port of Glasgow

No. in Reg. Book. Survey held at Glasgow Date, First Survey 24.4.36 Last Survey 27-1-1937

on the new steel S/S "DARLENY". (Number of Visits) Gross 5205 Tons Net 3126

Master Built at Port Glasgow By whom built Wm Hamilton & Co Ltd Yard No. 427 When built 1936

Engines made at Glasgow By whom made David Rowan & Co Ltd Engine No. 1001 When made 1936

Boilers made at Glasgow By whom made David Rowan & Co Ltd Boiler No. 1001 When made 1936

Nominal Horse Power 422 Owners Douglas & Ramsey Port belonging to Glasgow

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel A. Shillies Ltd (Letter for Record (S))

Total Heating Surface of Boilers 4750 sq ft Is forced draught fitted yes Coal or Oil fired coal

No. and Description of Boilers Two single ended Working Pressure 220

Tested by hydraulic pressure to 380 Date of test 11-9-36 No. of Certificate 19806 Can each boiler be worked separately yes

Area of Firegrate in each Boiler 49.5 sq ft No. and Description of safety valves to each boiler Two Improved high lift.

Area of each set of valves per boiler {per Rule 6.316 as fitted 7.952} Pressure to which they are adjusted 225 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 18" 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 15'-0" Length 11'-6" Shell plates: Material Steel Tensile strength 29-33 tons

Thickness 1 7/16" Are the shell plates welded or flanged no Description of riveting: circ. seams {end WR inter. -} long. seams DBS TR Diameter of rivet holes in {circ. seams F 1 3/8" B 1 1/2" long. seams 1 1/2"} Pitch of rivets {F 3.413 B 4.1 10 1/4"}

Percentage of strength of circ. end seams {plate F 59.7 B 63.4 rivets F 48.2 B 47.6} Percentage of strength of circ. intermediate seam {plate - rivets -}

Percentage of strength of longitudinal joint {plate 85.36 rivets 89 combined 88.5} Working pressure of shell by Rules 220

Thickness of butt straps {outer 1 3/32" inner 1 1/32"} No. and Description of Furnaces in each Boiler Three Deighton 30hp

Material Steel Tensile strength 26-30 tons Smallest outside diameter 45.375"

Length of plain part {top - bottom -} Thickness of plates {crown 1 1/16" bottom 1 1/16" } Description of longitudinal joint welded

Dimensions of stiffening rings on furnace or c.c. bottom - Working pressure of furnace by Rules 222

End plates in steam space: Material steel Tensile strength 26-30 tons Thickness 1 1/32" Pitch of stays 19 1/4" x 19 3/4"

How are stays secured DN Working pressure by Rules 222

Tube plates: Material {front steel back -} Tensile strength {26-30 tons " " } Thickness {7/8" 3/4" }

Mean pitch of stay tubes in nests 9 1/4" Pitch across wide water spaces 13 1/2" Working pressure {front 224 back 235}

Girders to combustion chamber tops: Material steel Tensile strength 28-32 tons Depth and thickness of girder at centre 2 @ 10 1/8" x 7/8" Length as per Rule 34.53" Distance apart 10 9/8" No. and pitch of stays in each 3 @ 8 1/4" Working pressure by Rules 222 Combustion chamber plates: Material steel Tensile strength 26-30 tons Thickness: Sides 3/4" Back 23/32" Top 3/4" Bottom 13/16"

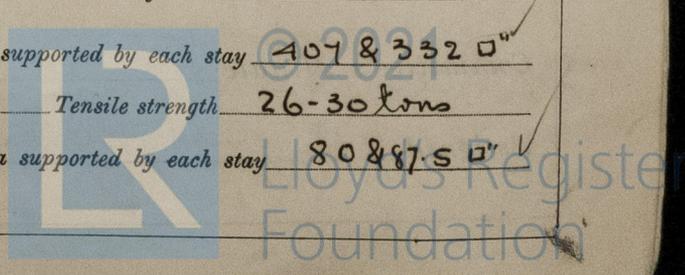
Pitch of stays to ditto: Sides 10" x 8 1/4" Back 10" x 8" Top 10 9/8" x 8 1/4" Are stays fitted with nuts or riveted over nuts

Working pressure by Rules 221 Front plate at bottom: Material steel Tensile strength 26-30 tons Thickness 7/8" Lower back plate: Material steel Tensile strength 26-30 tons Thickness 53/64"

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

Working Pressure 226 Main stays: Material steel Tensile strength 28-32 tons Diameter {At body of stay, 3/4" & 3/8" or Over threads} No. of threads per inch 6 Area supported by each stay 4078.332 sq"

Working pressure by Rules 228 & 236 sq" Screw stays: Material steel Tensile strength 26-30 tons Diameter {At turned off part, 3/4" or Over threads 1 3/4" 1 7/8" } No. of threads per inch 9 Area supported by each stay 80887.5 sq"



Working pressure by Rules 226 & 244 Are the stays drilled at the outer ends no Margin stays: Diameter ^{At turned off part,} 17/8"
 No. of threads per inch 9 Area supported by each stay 940" Working pressure by Rules 227
 Tubes: Material Iron External diameter ^{Plain} 2 1/2" Thickness ^{8 W.S.} 5/16" 3/8" 7/16" No. of threads per inch 9
 Pitch of tubes 3 5/8" x 3 3/4" Working pressure by Rules 300 lb Manhole compensation: Size of opening in
 shell plate 15 1/2" x 19 1/2" Section of compensating ring 10 1/2" x 1 7/16" No. of rivets and diameter of rivet holes 34 @ 1 1/2"
 Outer row rivet pitch at ends 10 1/4" 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} _____
 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} _____
 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
 Arch. H. Grierson Manufacturer.

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

SEE ACCOMPANYING MACHINERY REPORT.

Are the approved plans of boiler and superheater forwarded herewith
 (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.)

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.

1/2/37

Survey Fee ... £ sample Rpt : _____ When applied for, _____ 19 _____
 Travelling Expenses (if any) £ _____ : _____ When received, _____ 19 _____

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

Committee's Minute GLASGOW

FEB 1937

Assigned

SEE ACCOMPANYING MACHINERY REPORT.



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