

10 APR 1929

Rpt. 5a.

REPORT ON BOILERS.

No. 48827

Received at London Office

30 JAN 1929

Date of writing Report

When handed in at Local Office

26.1.29 Port of Glasgow

No. in Survey held at Reg. Book

Date First Survey 9.10.28 Last Survey 23.1.29

(Number of Visits 16)

"LEEUWARDEN"

Tons

Master Built at Troon By whom built Ailsa SBC Yard No. 409 When built 1929

Engines made at Troon By whom made Ailsa SBC Engine No. 144 When made 1929

Boilers made at Glasgow By whom made David Rowan & Co Ltd Boiler No. 367 When made 1929

Nominal Horse Power Owners Port belonging to

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel David Beith & Sons Ltd & James Dunlop & Co Ltd (Letter for Record 6)

Total Heating Surface of Boilers 5834 sq ft Is forced draught fitted No Coal or Oil fired coal

No. and Description of Boilers Two single ended Working Pressure 200

Tested by hydraulic pressure to 350 Date of test 28.12.28 No. of Certificate 18157 Can each boiler be worked separately

Area of Firegrate in each Boiler 80 sq ft No. and Description of safety valves to each boiler

Area of each set of valves per boiler (per Rule as fitted) Pressure to which they are adjusted Are they fitted with easing gear

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 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 16'-6" Length 11'-6" Shell plates: Material steel Tensile strength 29-33 tons

Thickness 1 1/16" Are the shell plates welded or flanged No Description of riveting: circ. seams end WR

long. seams UBS TR Diameter of rivet holes in (circ. seams F 1 3/8" B 1 1/2" Description of riveting: inter. F 3-405, 8-4-068

Percentage of strength of circ. end seams (plate F 60.2 B 63.1 rivets F 48.2 B 48.1) Percentage of strength of circ. intermediate seam (plate rivets)

Percentage of strength of longitudinal joint (plate 85.36 rivets 88.9 combined 88.5) Working pressure of shell by Rules 200

Thickness of butt straps (outer 3/32" inner 1/32") No. and Description of Furnaces in each Boiler Two Deighton

Material steel Tensile strength 26-30 tons Smallest outside diameter 3'-5 7/8"

Length of plain part (top bottom) Thickness of plates (crown 7 3/8" bottom 7 3/16") Description of longitudinal joint welded

Dimensions of stiffening rings on furnace or c.c. bottom none Working pressure of furnace by Rules 204

End plates in steam space: Material steel Tensile strength 26-30 tons Thickness 1 1/32" Pitch of stays 20 1/2" x 20 1/4"

How are stays secured WN Working pressure by Rules 201

Tube plates: Material (front back) steel Tensile strength 26-30 tons Thickness 15/16" 13/16"

Mean pitch of stay tubes in nests 10.84" Pitch across wide water spaces 14 1/2" Working pressure (front back) 205 202

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

at centre 2 @ 9 1/4" x 7/8" Length as per Rule 34 11/32" Distance apart 9 3/4" No. and pitch of stays

in each 3 @ 8 1/4" Working pressure by Rules 201 Combustion chamber plates: Material steel

Tensile strength 26-30 tons Thickness: Sides 1/16" Back 2/32" Top 1/16" Bottom 3/4"

Pitch of stays to ditto: Sides 8 1/4" x 9 3/4" Back 8 3/4" x 8 1/2" Top 8 1/4" x 9 3/4" Are stays fitted with nuts or riveted over nuts

Working pressure by Rules 202 Front plate at bottom: Material steel Tensile strength 26-30 tons

Thickness 15/16" Lower back plate: Material steel Tensile strength 26-30 tons Thickness 5/16"

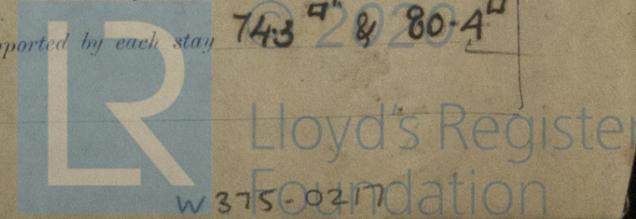
Pitch of stays at wide water space 13 1/2" Are stays fitted with nuts or riveted over nuts

Working Pressure 203 Main stays: Material steel Tensile strength 28-32 tons

Diameter (At body of stay or Over threads) 3 1/4" & 3 No. of threads per inch 6 Area supported by each stay 430" & 379"

Working pressure by Rules 218 & 208 Screw stays: Material steel Tensile strength 26-30 tons

Diameter (At turned off part or Over threads) 1 9/8" & 1 1/4" No. of threads per inch 9 Area supported by each stay 743" & 280.4"



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Working pressure by Rules 205 & 225 Are the stays drilled at the outer ends no Margin stays: Diameter ^{At turned off part,} 1 7/8" or ^{Over threads} 1 7/8"

No. of threads per inch 9 Area supported by each stay 94.56" Working pressure by Rules 225

Tubes: Material Iron External diameter ^{Plain} 3 1/2" Thickness ^{8 w.s.} 1/4" 5/16" 3/8" No. of threads per inch 9

Pitch of tubes 4 5/8" x 4 5/8" Working pressure by Rules 226 Manhole compensation: Size of opening in shell plate 19 1/2" x 15 1/2" Section of compensating ring 10 1/2" x 1 7/8" 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 90T Thickness of shell 3/16" Description of longitudinal joint Welded

Diameter of rivet holes 3/16" Pitch of rivets 3/16" Percentage of strength of joint ^{Plate} 100% ^{Rivets} 100%

Internal diameter 20 1/2" Working pressure by Rules 226 Thickness of crown 3/16" No. and diameter of stays 10 @ 1 1/2" Working pressure by Rules 226

How connected to shell Welded Size of doubling plate under dome 10" x 10" Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell 3/16" @ 1 1/2"

Type of Superheater none Manufacturers of ^{Tubes} W. & A. Mitchell ^{Steel castings} W. & A. Mitchell

Number of elements 1 Material of tubes Iron Internal diameter and thickness of tubes 3 1/2" x 3/16"

Material of headers Iron Tensile strength 90T Thickness 3/16" Can the superheater be shut off and the boiler be worked separately Yes

Area of each safety valve 1.5 sq. in. Are the safety valves fitted with casing gear Yes Working pressure as per Rules 205 Pressure to which the safety valves are adjusted 205 Hydraulic test pressure: tubes 205, castings 205 and after assembly in place 205 Are drain cocks or valves fitted 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,
DAVID ROWAN & CO., LIMITED
Manufacturer.

Dates of Survey ^{During progress of work in shops - -} 1928 Oct 9-17-30 Nov 6-8-17-20-23 Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) Yes

^{while building} ^{board vessel - -} 26 Dec 6-14-18-20-28 (1929) Jan 1-3-5-7-9-11-13-15-17-19-21-23-25-27-29-31 Total No. of visits 16

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

The materials and workmanship are of a high standard.

The boiler has been constructed under special survey in accordance with the rules.

This boiler has been securely fitted on board Hs Leeuwarden (see E/s Rpt N° 49044)

It is submitted that
this vessel is eligible for
THE RECORD.

A.B.
26/1/29

Survey Fee ... £ 31 : 19 : When applied for, 28 JAN 1929

Travelling Expenses (if any) £ 3 : 00 : When received, 31.1.1929

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

Committee's Minute GLASGOW 29 JAN 1929

Assigned TRANSMIT TO LONDON

