

REPORT ON BOILERS.

No. 57064

Received at London Office 27 MAY 1936

Date of writing Report 19 When handed in at Local Office 25.5.36¹⁵ Port of Glasgow

No. in Survey held at Glasgow Date, First Survey 3.3.36 Last Survey 20-5-1936

on the new steel (Number of Visits 10) Tons {Gross Net

Master Built at Shadrecht By whom built Van der Klop Yard No. 520 When built 1936

Engines made at Aberdeen By whom made Alex Hall & Co Ltd. Engine No. When made 1936

Boilers made at Glasgow By whom made Wain Rowan & Co Ltd. Boiler No. 420 When made 1936

Nominal Horse Power Owners James Dredging Co Port belonging to

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Plates to Shillashay-Steel Company of Scotland Ltd (Letter for Record (S) ✓)

Total Heating Surface of Boilers 1900 sq ft Is forced draught fitted no Coal or Oil fired oil

No. and Description of Boilers one single ended Working Pressure 190

Tested by hydraulic pressure to 335 Date of test 20-5-36 No. of Certificate 19733 Can each boiler be worked separately

Area of Firegrate in each Boiler No. and Description of safety valves to each boiler 2 Improved high lift.

Area of each set of valves per boiler {per Rule 7.920" as fitted 7.940" Pressure to which they are adjusted 195 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 2'-0" Is oil fuel carried in the double bottom under boilers no

Smallest distance between shell of boiler and tank top plating no tanks Is the bottom of the boiler insulated no

Largest internal dia. of boilers 14'-0" Length 11'-0" 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 1 1/2" inter. 1 1/2" long. seams 1 1/2" TR Diameter of rivet holes in {circ. seams F 1 3/16" 6 1/4" Pitch of rivets {F 3-2" 8 3/16" 8 3/16"

Percentage of strength of circ. end seams {plate F 62.9 862.3 rivets F 47.1 850.4 Percentage of strength of circ. intermediate seam {plate 85.4 rivets 90.7 Working pressure of shell by Rules 190

Percentage of strength of longitudinal joint {plate 7/8" rivets 89 combined 89

Thickness of butt straps {outer 7/8" inner 1" No. and Description of Furnaces in each Boiler Two Brighton

Material steel Tensile strength 26-30 tons Smallest outside diameter 4'-1 3/32"

Length of plain part {top bottom Thickness of plates {crown 4 1/4" bottom 6 1/4" Description of longitudinal joint welded

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 190

End plates in steam space: Material steel Tensile strength 26-30 tons Thickness 1 1/32" Pitch of stays 18" x 20"

How are stays secured WN Working pressure by Rules 191

Tube plates: Material {front steel back " Tensile strength {26-30 tons Thickness {3 1/2" 3 1/2" 3 1/2"

Mean pitch of stay tubes in nests 10 9/16" Pitch across wide water spaces 14 1/4" Working pressure {front 195 back 196

Girders to combustion chamber tops: Material steel Tensile strength 28-32 tons Depth and thickness of girder at centre 2 @ 9" x 7/8" Length as per Rule 2-10 3/32" Distance apart 9 1/2" No. and pitch of stays in each 3 @ 8 1/4" Working pressure by Rules 195 Combustion chamber plates: Material steel

Tensile strength 26-30 tons Thickness: Sides 2 1/32" Back 2 1/32" Top 2 1/32" Bottom 2 5/32"

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

Working pressure by Rules 190 Front plate at bottom: Material steel Tensile strength 26-30 tons

Thickness 2 9/32" Lower back plate: Material steel Tensile strength 26-30 tons Thickness 2 5/32"

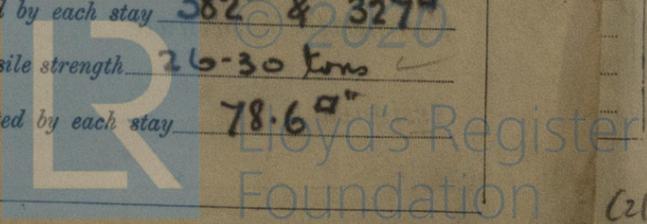
Pitch of stays at wide water space 13 1/4" Are stays fitted with nuts or riveted over nuts

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

Diameter {At body of stay, or Over threads 3" & 2 3/4" No. of threads per inch 6 Area supported by each stay 382 sq" & 327 sq"

Working pressure by Rules 206 & 201 Screw stays: Material steel Tensile strength 26-30 tons

Diameter {At turned off part, or Over threads 1 7/8" No. of threads per inch 9 Area supported by each stay 78.6 sq"



Working pressure by Rules 194 Are the stays drilled at the outer ends no Margin stays: Diameter $\left\{ \begin{array}{l} \text{At turned off part,} \\ \text{or} \\ \text{Over threads} \end{array} \right. \begin{array}{l} 1\frac{3}{4}'' \\ 1\frac{3}{4}'' \end{array}$

No. of threads per inch 9 Area supported by each stay 955" Working pressure by Rules 190

Tubes: Material Iron External diameter $\left\{ \begin{array}{l} \text{Plain } 3\frac{1}{2}'' \\ \text{Stay } 3\frac{1}{2}'' \end{array} \right.$ Thickness $\left\{ \begin{array}{l} 8 \text{ W.S.} \\ \frac{1}{4}'' \text{ } \frac{9}{16}'' \text{ } \frac{3}{8}'' \end{array} \right.$ No. of threads per inch 9

Pitch of tubes 4 7/8" x 4 3/4" Working pressure by Rules 215 Manhole compensation: Size of opening

shell plate 19 1/2" x 15 1/2" Section of compensating ring 9 1/2" x 1 1/4" No. of rivets and diameter of rivet holes 34 @ 1 1/4"

Outer row rivet pitch at ends 8 7/8" 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 $\left\{ \begin{array}{l} \text{Plate} \\ \text{Rivets} \end{array} \right.$

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 $\left\{ \begin{array}{l} \text{Tubes} \\ \text{Steel castings} \end{array} \right.$

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 Manufacturer.
Arch. H. Frierson

Dates of Survey $\left\{ \begin{array}{l} \text{During progress of work in shops} \\ \text{while building} \end{array} \right. \left\{ \begin{array}{l} \text{During erection on board vessel} \end{array} \right.$

1936 Mar. 3. 5. 16. 31 Apr. 7. Are the approved plans of boiler and superheater forwarded herewith yes
 (If not state date of approval.)

9. 20 May. 8. 11. 12. 20 Total No. of visits 10

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.

The boiler will be fitted on board the vessel of Aberdeen.

25/5/36.

Survey Fee £ 12 : 14 : When applied for, 26 MAY 1936

Travelling Expenses (if any) £ _____ When received, LON 9/6/36.

Schwartz
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 26 MAY 1936

Assigned **TRANSMIT TO LONDON**

