

# REPORT ON BOILERS.

18 DEC 1929

Received at London Office

Date of writing Report 18.11.1929 When handed in at Local Office 13<sup>th</sup> Dec. 1929 Port of Greenock

No. in Survey held at Greenock Date, First Survey 12<sup>th</sup> June 1929 Last Survey 13<sup>th</sup> December 1929

39307 Sup. in the M/S "Athelregent" (Number of Visits ✓) Gross 8881 Tons Net 5231

Master Built at Middlesbrough By whom built Furness & Co<sup>ys</sup> Yard No. 153 When built 1929

Engines made at Greenock By whom made John & Neacaid & Co<sup>ys</sup> Engine No. 1488 When made 1929

Boilers made at auto By whom made ditto Boiler No. 149 When made 1929

Nominal Horse Power Owners United Molasses Co<sup>ys</sup> Port belonging to Liverpool

## MULTITUBULAR BOILERS ~~1~~ AUXILIARY, ~~1~~ DONKEY.

Manufacturers of Steel Wilkowitz & Bergbau Fried Krupp (Letter for Record S)

Total Heating Surface of Boilers 1823 sq ft Is forced draught fitted Yes Coal or Oil fired Oil

No. and Description of Boilers one single ended Working Pressure 180

Tested by hydraulic pressure to 320 Date of test 29.11.29 No. of Certificate 1908. Can each boiler be worked separately ✓

Area of Firegrate in each Boiler Oil Fuel No. and Description of safety valves to each boiler Doyle Spring

Area of each set of valves per boiler { per Rule 1402 sq in as fitted 1413 sq in Pressure to which they are adjusted 185 lbs 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 on uptakes and bunkers on woodwork 4'-6" 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 Yes

Largest internal dia. of boilers 13'-4 7/8" Length 11'-0" Shell plates: Material S Tensile strength 28-32

Thickness 1 1/8" Are the shell plates welded or flanged - Description of riveting: circ. seams { end DR inter. -

long. seams TR 0 D B S Diameter of rivet holes in { circ. seams 1 1/4" long. seams 1 3/16" Pitch of rivets { 3.8-5.5" 8 3/8"

Percentage of strength of circ. end seams { plate 64.5% rivets 46.5% Percentage of strength of circ. intermediate seam { plate 85.52% rivets ✓

Percentage of strength of longitudinal joint { plate 85.52% rivets 90.5% combined 89.8% Working pressure of shell by Rules 184

Thickness of butt straps { outer 7/8" inner 1" No. and Description of Furnaces in each Boiler 3 Seightons

Material S Tensile strength 26-30 Smallest outside diameter 3-0 15/16"

Length of plain part { top - bottom ✓ Thickness of plates { crown 15/32" bottom 15/32" Description of longitudinal joint weld

Dimensions of stiffening rings on furnace or c.c. bottom - Working pressure of furnace by Rules 182

End plates in steam space: Material S Tensile strength 26-30 Thickness 1 3/32" Pitch of stays 18 1/2" + 18 1/2"

How are stays secured D N - Washers Working pressure by Rules 182

Tube plates: Material { front } S Tensile strength { } 26-30 Thickness { 23/32" back }

lean pitch of stay tubes in nests 10" 8 Pitch across wide water spaces 14" Working pressure { front 192 back 188

riders to combustion chamber tops: Material S Tensile strength 28-32 Depth and thickness of girder

centre 9 1/2" x 7/8" (2) Length as per Rule 34' 6.2 Distance apart 8 1/2" No. and pitch of stays

each 3 at 9' Working pressure by Rules 204 Combustion chamber plates: Material S

Tensile strength 26-30 Thickness: Sides 21/32" Back 21/32" Top 21/32" Bottom 21/32"

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

Working pressure by Rules 183 Front plate at bottom: Material S Tensile strength 26-30

Thickness 1" Lower back plate: Material S Tensile strength 26-30 Thickness 25/32"

pitch of stays at wide water space 13 3/4" Are stays fitted with nuts or riveted over Nuts

Shipping Working Pressure 183 Main stays: Material S Tensile strength 28-32

diameter { At body of stay, or Over threads } 3" No. of threads per inch 6 Area supported by each stay 342.5 sq in

Working pressure by Rules 196 Screw stays: Material S Tensile strength 26-30

diameter { At turned off part, or Over threads } 1 5/8" No. of threads per inch 9 Area supported by each stay 46.5 sq in

Working pressure by Rules 198. Are the stays drilled at the outer ends 90 Margin stays: Diameter  $\left\{ \begin{array}{l} \text{At turned off part. } 1\frac{3}{4} \\ \text{or} \\ \text{Over threads } \end{array} \right.$

No. of threads per inch 9 Area supported by each stay 100.62<sup>sq</sup> Working pressure by Rules 181.

Tubes: Material Iron External diameter  $\left\{ \begin{array}{l} \text{Plain } 3 \\ \text{Stay } \end{array} \right.$  Thickness  $\left\{ \begin{array}{l} \text{9 WG} \\ \text{1 1/4 5/16} \end{array} \right.$  No. of threads per inch 9

Pitch of tubes 4 5/16 + 4 3/16 Working pressure by Rules 192 Manhole compensation: Size of opening in shell plate 20 1/2 + 16 1/2 Section of compensating ring 2-11 + 2-4 + 13/16 No. of rivets and diameter of rivet holes 36 at 1 5/16

Outer row rivet pitch at ends 8 3/4 Depth of flange if manhole flanged 3 1/2 Steam Dome: Material

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

How connected to shell Inner radius of crown Working pressure by Rules Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell

Size of doubling plate under dome

Type of Superheater

Manufacturers of  $\left\{ \begin{array}{l} \text{Tubes} \\ \text{Steel castings} \end{array} \right.$  Internal diameter and thickness of tubes

Number of elements Material of tubes Thickness Can the superheater be shut off and the boiler be worked separately

Material of headers Tensile strength 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 23 inclusive for boilers been complied with

The foregoing is a correct description,  
For John G. Kincaid & Co. Ltd.,  
Director. Manufacturer.

Dates of Survey  $\left\{ \begin{array}{l} \text{During progress of work in shops} \\ \text{while building} \end{array} \right.$  **SEE MACHINERY REPORT.**

Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval) YES.

Total No. of visits

**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.) This boiler has been built under special survey in accordance with the approved plans & the workmanship & material are of good quality. It is now shipped to Middleborough, at which port it will be fitted on board. This Report accompanies Flat of the Machinery.

This boiler has been securely fitted aboard and its safety valves adjusted and tested under steam with satisfactory results.

P. J. Mann  
17.2.30.

Charged on Machinery Rept. : When applied for, 192  
Traveling Expenses (if any) £ : When received, 192

W. J. Gordon-Mitchell  
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute GLASGOW 17 DEC 1929  
Assigned Deferred.

FRI. 7 MAR 1930  
See Mark. 13996  
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