

REPORT ON BOILERS.

No. 49074

Received at London Office 24 APR 1929

Date of writing Report 10-4-1929 When handed in at Local Office 16-4-1929 Port of Glasgow

Survey held at Glasgow Date, First Survey 20-2-29 Last Survey 16-4-1929

on the (Number of Visits 6) Gross Tons

Master Built at By whom built Yard No. When built

Engines made at By whom made Engine No. When made

Boilers made at *Carfin* By whom made *Anderson Sons Ltd* Boiler No. *3045* When made *1929*

Nominal Horse Power Owners Port belonging to

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel *D. Colville Sons* (Letter for Record *S*)

Total Heating Surface of Boilers *460 sq ft* Is forced draught fitted Coal or Oil fired

No. and Description of Boilers *1 loco-marine* Working Pressure *150 lbs*

Tested by hydraulic pressure to *275 lbs* Date of test *8-4-29* No. of Certificate *18248* Can each boiler be worked separately

Area of Firegrate in each Boiler *18.3 sq ft* No. and Description of safety valves to each boiler

Area of each set of valves per boiler 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 *Barrel 4'-5 3/16"* Length *11'-0"* Barrel Shell plates: Material *Steel* Tensile strength *28-32*

Thickness *13/32"* Are the shell plates welded or flanged *no* Description of riveting: circ. seams *end S.R.*

long. seams *D.R.-D.B.S.* Diameter of rivet holes in *13/16"* Pitch of rivets *2-8"*

Percentage of strength of circ. end seams *plate 59.3, rivets 53.3* Percentage of strength of circ. intermediate seam *plate 71, rivets 42*

Percentage of strength of longitudinal joint *combined 142* Working pressure of shell by Rules *150 lbs*

Thickness of butt straps *outer 3/8", inner 1/2"* No. and Description of Furnaces in each Boiler *1. Rectangular*

Material *Steel* Tensile strength *26-30* Smallest outside diameter

Length of plain part *top 4'-5 13/16", bottom 3" x 2 1/2"* Thickness of plates *1/2"* Description of longitudinal joint

Dimensions of stiffening rings on furnace or c.c. bottom *3" x 2 1/2"* Working pressure of furnace by Rules *171 lbs*

End plates in steam space: Material *Steel* Tensile strength *26-30* Smokebox tube plate *5 1/8" long, 13"*

How are stays secured *D.N + Riveted doublers* Thickness *17/32"* Pitch of stays *14 1/4"*

Tube plates: Material *Steel* Tensile strength *26-30* Thickness *5/8"* Working pressure by Rules *159 lbs*

Mean pitch of stay tubes in nests *9 1/32"* Pitch across wide water spaces Working pressure *front 159 lbs, back 171 lbs*

Stays to combustion chamber tops: Material *Steel* Tensile strength *26-30* Depth and thickness of girders *9 thirds per inch*

Length as per Rule *163 lbs* Distance apart *6 1/2" x 7 1/2"* No. and pitch of stays

Working pressure by Rules *163 lbs* Combustion chamber plates: Material *Steel*

Tensile strength *26-30* Thickness: Sides *1/2"* Back *1/2"* Top *1/2"* Bottom *1/2"*

Pitch of stays to ditto: Sides *7 1/2" x 6 1/2"* Back *4 x 7 1/2"* Top *7 1/2" x 6 1/2"* Are stays fitted with nuts or riveted over *nuts*

Working pressure by Rules *171 lbs* Front plate at bottom: Material *Steel* Tensile strength *26-30*

Thickness *17/32"* Lower back plate: Material *Steel* Tensile strength *26-30* Thickness *5/8"*

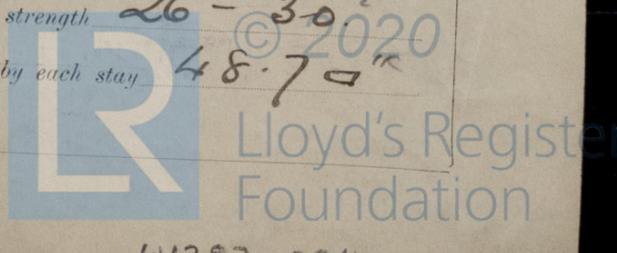
Pitch of stays at wide water space Are stays fitted with nuts or riveted over

Working Pressure Main stays: Material *Steel* Tensile strength *28-32*

Diameter *hoop it: 1 7/8"* No. of threads per inch *6* Area supported by each stay *171 sq in*

Working pressure by Rules *191 lbs - 153 lbs* Screw stays: Material *Steel* Tensile strength *26-30*

Diameter *1 1/2"* No. of threads per inch *9* Area supported by each stay *48.7 sq in*



Working pressure by Rules **163 lb** Are the stays drilled at the outer ends **no** Margin stays: Diameter **1 1/2"** (At turned off part or Over threads)

No. of threads per inch **9** Area supported by each stay **71.25 sq** Working pressure by Rules **176 lb**

Tubes: Material **Iron** External diameter **2 1/2"** Thickness **10. w.g.** No. of threads per inch **9**

Pitch of tubes **3 3/8" x 3 3/8"** Working pressure by Rules **175 lb** Manhole compensation: Size of opening in shell plate **15" x 11"** Section of compensating ring **5" x 5/8"** No. of rivets and diameter of rivet holes **40 - 1 3/16"**

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

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

How connected to shell Inner radius of crown Working pressure by Rules

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 Manufacturers of Tubes Steel castings Internal diameter and thickness of tubes

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

Material of headers 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,
ALEX. ANDERSON & SONS, LTD. Manufacturer.

Dates of Survey: During progress of work in shops - **1929 Feb. 20 Mar. 25 Apr. 28. 16** Are the approved plans of boiler and superheater forwarded herewith **with** (If not state date of approval)
 while building: During erection on board vessel - **✓** **duplicate boiler 5044 herewith.**
 Total No. of visits **6**

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
 This boiler has been built under special survey to approved plans and the Society's Rules. Materials and workmanship are good. It is to the order of Mr. McKie & Baxter, for their entry No 1244 for shipment to Singapore.

[Faint handwritten notes and scribbles, including "26-30", "27-30", "28-30", "29-30", "30-30", "31-30", "32-30", "33-30", "34-30", "35-30", "36-30", "37-30", "38-30", "39-30", "40-30", "41-30", "42-30", "43-30", "44-30", "45-30", "46-30", "47-30", "48-30", "49-30", "50-30", "51-30", "52-30", "53-30", "54-30", "55-30", "56-30", "57-30", "58-30", "59-30", "60-30", "61-30", "62-30", "63-30", "64-30", "65-30", "66-30", "67-30", "68-30", "69-30", "70-30", "71-30", "72-30", "73-30", "74-30", "75-30", "76-30", "77-30", "78-30", "79-30", "80-30", "81-30", "82-30", "83-30", "84-30", "85-30", "86-30", "87-30", "88-30", "89-30", "90-30", "91-30", "92-30", "93-30", "94-30", "95-30", "96-30", "97-30", "98-30", "99-30", "100-30"]

Survey Fee ... £ **4 : 4 : 0** When applied for, **12 APL 1929**
 Travelling Expenses (if any) £ **✓** : **15 : 5** When received, **15-5 1929**

H. L. Sutherland
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **GLASGOW 23 APL 1929**
 Assigned **TRANSMIT TO LONDON**

TUE. 18 MAR 1930
 See Eng. J.C. 262530

