

REPORT ON BOILERS.

14 MAY 1930

Received at London Office

Date of writing Report 23-4-30 When handed in at Local Office 10-5-30 Port of Glasgow

No. in Reg. Book. Survey held at Glasgow Date, First Survey 27-5-29 Last Survey 3-5-30

on the S.S. "City of Barcelona" (Number of Visits 94) Tons {Gross 5698 Net 3525

Master Built at Glasgow By whom built Barclay Curle & Co. Ltd. Yard No. 636 When built 1930

Engines made at Glasgow By whom made Barclay Curle & Co. Ltd. Engine No. 636 When made 1930

Boilers made at Glasgow By whom made Barclay Curle & Co. Ltd. Boiler No. 636 When made 1930

Nominal Horse Power Owners The Kellerman Lines Ltd. Port belonging to Liverpool

MULTITUBULAR BOILERS—~~MAIN~~, AUXILIARY, OR ~~DONKEY~~

Manufacturers of Steel Wm Beardmore & Co. Ltd. (Letter for Record (5))

Total Heating Surface of Boilers 1680 sq. ft. Is forced draught fitted Yes Coal or Oil fired Coal

No. and Description of Boilers 1 S.B. Working Pressure 265 lb.

Tested by hydraulic pressure to 448 lb. Date of test 16-10-29 No. of Certificate 18480 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler 39.9 sq. ft. No. and Description of safety valves to each boiler 2 S.V. (Improved High Lift.)

Area of each set of valves per boiler {per Rule 7.5 x .5 as fitted 4.84 Pressure to which they are adjusted 265 lb. Are they fitted with easing gear Yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler Yes

Smallest distance between boilers or uptakes and bunkers or woodwork well clear Is oil fuel carried in the double bottom under boilers no

Smallest distance between shell of boiler and tank top plating well clear Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 12'-6" Length 12'-0" Shell plates: Material Steel Tensile strength 30-34 Ton.

Thickness 1 13/32" Are the shell plates welded or flanged no Description of riveting: circ. seams {end D.R.L. inter. 3.835"

long. seams T.R.-D.B.S. Diameter of rivet holes in {circ. seams 1 1/16" long. seams 1 1/16" Pitch of rivets {plate 9.750" rivets 3.835"

Percentage of strength of circ. end seams {plate 62.45 rivets 46.15 Percentage of strength of circ. intermediate seam {plate 85.25 rivets 85.09

Percentage of strength of longitudinal joint {plate 85.09 rivets 86.50 Working pressure of shell by Rules 266 lb.

Thickness of butt straps {outer 1 3/32" inner 1 1/32" No. and Description of Furnaces in each Boiler 2 Brighton Section 20"

Material Steel Tensile strength 26-30 Ton. Smallest outside diameter 45.25"

Length of plain part {top 13/32" bottom 13/32" Thickness of plates {circum 13/16" bottom 13/16" Description of longitudinal joint weld

Dimensions of stiffening rings on furnace or c.c. bottom Yes Working pressure of furnace by Rules 265 lb.

End plates in steam space: Material Steel Tensile strength 26-30 Ton. Thickness 1 5/16" Pitch of stays 18" x 16 3/4"

How are stays secured D.N. Working pressure by Rules 267 lb.

Tube plates: Material {front Steel back Steel Tensile strength {front 26-30 Ton. back 26-30 Ton. Thickness {front 1 1/32" back 1 1/32"

Mean pitch of stay tubes in nests 8-9 1/4" Pitch across wide water spaces 14 5/16" Working pressure {front 265 lb. back 488 lb.

Girders to combustion chamber tops: Material Steel Tensile strength 28-32 Ton. Depth and thickness of girder at centre 10 1/2" x 1 7/8" Length as per Rule 37 1/4" Distance apart 8 1/2" No. and pitch of stays in each 4 @ 8" Working pressure by Rules 295 lb.

Combustion chamber plates: Material Steel Tensile strength 26-30 Ton. Thickness: Sides 2 3/32" Back 2 3/32" Top 2 3/32" Bottom 3 1/32"

Pitch of stays to ditto: Sides 9" x 7 3/8" Back 8 3/4" x 7 3/4" Top 8 1/2" x 8" Are stays fitted with nuts or riveted over nuts

Working pressure by Rules 266 lb. Front plate at bottom: Material Steel Tensile strength 26-30 Ton. Thickness 1 1/32" Lower back plate: Material Steel Tensile strength 26-30 Ton. Thickness 6 1/64"

Pitch of stays at wide water space 14 5/16" Are stays fitted with nuts or riveted over nuts

Working Pressure 265 lb. Main stays: Material Steel Tensile strength 28-32 Tons.

Diameter {At body of stay, 3 1/4" or Over threads 3 1/4" No. of threads per inch 6 Area supported by each stay 301.5 sq. in.

Working pressure by Rules 265 lb. Screw stays: Material Steel Tensile strength 26-30 Ton.

Diameter {At turned off part, 1 3/4" or Over threads 1 3/4" No. of threads per inch 9 Area supported by each stay 685

Working pressure by Rules **267 lb.** Are the stays drilled at the outer ends **no** Margin stays: Diameter ^{At turned off part,} **2 1/4" x 2 1/8"**
 No. of threads per inch **9** Area supported by each stay **1210"** Working pressure by Rules **268 lb.**
 Tubes: Material **Iron** External diameter ^{Plain} **3"** Thickness ^{y.w.f.} **5/16" - 7/16" - 1/2"** No. of threads per inch **9**
 Pitch of tubes **4 3/16" x 4 1/4"** Working pressure by Rules **300 lb.** Manhole compensation: Size of opening in
 shell plate **19 1/2" x 15 1/2"** Section of compensating ring **26" x 1 3/32"** No. of rivets and diameter of rivet holes **40 @ 1 7/16"**
 Outer row rivet pitch at ends **9 3/4"** Depth of flange if manhole flanged **4 1/4"** 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}
 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 **NEM (Smoke Tub)** Manufacturers of ^{Tubes} **Sunderland Rpt**
 Number of elements **5** Material of tubes **S** Internal diameter and thickness of tubes **-**
 Material of headers **S** Tensile strength **-** Thickness **-** Can the superheater be shut off and
 the boiler be worked separately **yes** Is a safety valve fitted to every part of the superheater which can be shut off from the boiler **yes**
 Area of each safety valve **3.14 sq.** Are the safety valves fitted with easing gear **yes** Working pressure as per
 Rules **265 lb.** Pressure to which the safety valves are adjusted **265 lb.** Hydraulic test pressure:
 tubes **✓** castings **✓** and after assembly in place **450 lb.** 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 **FOR BARCLAY, CURLE & Co., LTD.**
 The foregoing is a correct description, **J. H. Sutherland** Manufacturer.
 GENERAL MANAGER ENGINE WORKS.

Dates of Survey ^{During progress of work in shops - -} **See Accompanying** Are the approved plans of boiler and superheater forwarded herewith **yes.**
^{while building} ^{During erection on board vessel - - -} **machy Report.** Total No. of visits **94**

Is this Boiler a duplicate of a previous case **✓** If so, state Vessel's name and Report No.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) **This boiler has been built under Special Survey, to approved plans, in accordance with the Society's Rules. Materials and workmanship are good. It has been properly fitted on board the vessel, and the safety valves adjusted under steam to 265 lb. per square inch.**

Handwritten initials and date: 10/5/30.

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

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

Committee's Minute **GLASGOW 13 MAY 1930**
 Assigned **See Accompanying machy. Report**