

# REPORT ON BOILERS.

Received at London Office 13 MAR 1930

Date of writing Report 28 Feb 1930 When handed in at Local Office 12th MARCH 1930 Port of Greenock

No. in Reg. Book. Surrey held at Greenock Date, First Survey 11th February 1929 Last Survey 11th MARCH 1930

on the S/S Charterhurst (Number of Visits ✓) Gross Tons Net

Master Built at Irvine By whom built Ayrshire Dockyard Yard No. 515 When built 1929-30

Engines made at Greenock By whom made Rankin & Blackmore Ltd Engine No. 435 When made 1929-30

Boilers made at " By whom made " Boiler No. 435 When made 1929-30

Nominal Horse Power 470 Owners Charter Shipping Co Port belonging to Cardiff

## MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Witkowitz Bergbau und Eisenhütten-Gewerks (Letter for Record S)

Total Heating Surface of Boilers 5200 sq ft Is forced draught fitted yes Coal or Oil fired Coal

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

Tested by hydraulic pressure to 350 lbs Date of test 26-9-29 No. of Certificate 1889 Can each boiler be worked separately yes

Area of Firegrate in each Boiler 60.25 sq ft No. and Description of safety valves to each boiler one double lockburn improved high lift ✓

Area of each set of valves per boiler {per Rule 7.540" as fitted 11.880" ✓ Pressure to which they are adjusted 205 lbs ✓ 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 1'-3" Is oil fuel carried in the double bottom under boilers no

Smallest distance between shell of boiler and tank top plating 2'-0" Is the bottom of the boiler insulated no

Largest internal dia. of boilers 15'-4 5/8" Length 12'-0" Shell plates: Material S Tensile strength 28 1/2 - 32 1/2 ✓

Thickness 1 3/8" Are the shell plates welded or flanged no Description of riveting: circ. seams {end Double as fitted 11.880" ✓ inter. ✓

long. seams J. D. B. S. Diameter of rivet holes in {circ. seams 1 1/2" as fitted 11.880" ✓ long. seams 1 7/16" ✓ Pitch of rivets {4.002" ✓ 9 7/8" ✓

Percentage of strength of circ. end seams {plate 62.5 rivets 51.8 ✓ Percentage of strength of circ. intermediate seam {plate ✓ rivets ✓

Percentage of strength of longitudinal joint {plate 85.4 rivets 90.2 ✓ combined 89.2 ✓ Working pressure of shell by Rules 201.9 lbs

Thickness of butt straps {outer 1 7/16" ✓ inner 1 3/16" ✓ No. and Description of Furnaces in each Boiler Three Dighton type 3 cf.

Material S Tensile strength 26-30 Smallest outside diameter 3'-10 5/16" ✓

Length of plain part {top ✓ bottom ✓ Thickness of plates {crown 2 1/32" ✓ bottom 2 1/32" ✓ Description of longitudinal joint ✓

Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules 207 lbs

End plates in steam space: Material S Tensile strength 26-30 Thickness 1 5/16" Pitch of stays 19 1/8" - 20 7/8" ✓

How are stays secured nuts inside & outside ✓ Working pressure by Rules 201.9 lbs

Tube plates: Material {front S back S Tensile strength {26-30 Thickness {3/4" Wing 13/16" Centre 204 lbs front 210 lbs back

Mean pitch of stay tubes in nests 9.78" Pitch across wide water spaces 13 1/2" ✓ Working pressure {front 204 lbs back 210 lbs

Girders to combustion chamber tops: Material S Tensile strength 28 1/2 - 32 1/2 ✓ Depth and thickness of girder

at centre 10 1/8" x 1 1/2" Length as per Rule 3'-0 15/32" + 3'-0 3/32" Distance apart 9 1/2" No. and pitch of stays

in each 3 @ 9 3/4" Working pressure by Rules 202.5 lbs Combustion chamber plates: Material S

Tensile strength 26-30 Thickness: Sides 23/32" Back 23/32" Top 23/32" Bottom 27/32" ✓

Pitch of stays to ditto: Sides 9 1/2" x 9 3/4" Back 10" x 8 3/4" Top 9 1/2" x 9 3/4" Are stays fitted with nuts or riveted over nuts ✓

Working pressure by Rules 200.3 lbs Front plate at bottom: Material S Tensile strength 26-30

Thickness 1" Lower back plate: Material S Tensile strength 26-30 Thickness 7/8" ✓

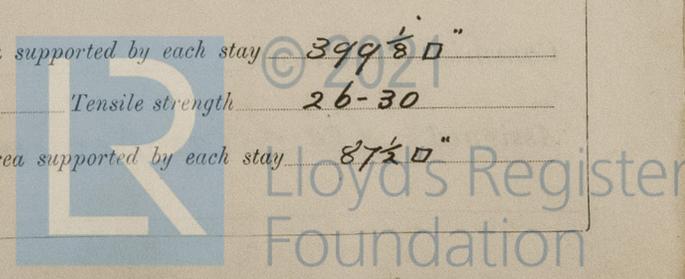
Pitch of stays at wide water space 13 1/2" x 8 3/4" Are stays fitted with nuts or riveted over nuts

Working Pressure 213 lbs Main stays: Material S Tensile strength 28-32 ✓

Diameter {At body of stay, 3 1/4" ✓ No. of threads per inch 6 ✓ Area supported by each stay 399 1/80" ✓ Over threads

Working pressure by Rules 201.3 lbs Screw stays: Material S Tensile strength 26-30

Diameter {At turned off part, 1 3/4" ✓ No. of threads per inch 9 ✓ Area supported by each stay 87 1/20" ✓ Over threads



Working pressure by Rules 207.5 lbs Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, 1 7/8" or Over threads

No. of threads per inch 9 Area supported by each stay 118 1/2 sq" Working pressure by Rules 206 lbs

Tubes: Material Iron External diameter { Plain 2 3/4" Stay 2 3/4" Thickness { 9 W.S. 7/16" + 3/16" No. of threads per inch 9

Pitch of tubes 3 7/8" x 3 15/16" Working pressure by Rules 206 lbs Manhole compensation: Size of opening in shell plate in hole plate Section of compensating ring No. of rivets and diameter of rivet holes

Outer row rivet pitch at ends 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 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 Manufacturers of { Tubes Steel castings

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 23 inclusive for boilers been complied with

The foregoing is a correct description,  
*W. H. ...* Manufacturer.

Dates of Survey { During progress of work in shops - - } See machinery report Are the approved plans of boiler and superheater forwarded herewith yes (If not state date of approval.)

while building { During erection on board vessel - - - } Total No. of visits ✓

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These boilers have been built under special survey in accordance with the approved plans and the workmanship and material are of good quality, they are now securely fitted on board.

This report accompanies that of the machinery

Survey Fee ... £ 192 When applied for, 192

Travelling Expenses changed on machinery report £ 192 When received, 192

*Chas R Rowcliffe & W. Gordon-Macdonald*  
 Engineer Surveyors to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 18 MAR 1930

Assigned See accompanying mach. report

