

# REPORT ON BOILERS.

No. 32197

Received at London Office

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Date of writing Report 16.12.1912 When handed in at Local Office 27.12.1912 Port of Glasgow.

No. in Survey held at Glasgow. Date, First Survey 18.3.12 Last Survey 24.12.1912

Book 69 on the s.s. "BORDERLAND" (Number of Visits 50) Gross 1753 Tons Net 863

Master Built at Glasgow By whom built Barclay Curle & Co. Ltd. When built 1912.

Engines made at Glasgow. By whom made Barclay Curle & Co. Ltd. When made 1912.

Boilers made at Glasgow. By whom made Barclay Curle & Co. Ltd. When made 1912.

Registered Horse Power Owner Liverpool & Hamburg S.S. Co. (Carries to N.Y.S.) Port belonging to Liverpool.

## MULTITUBULAR BOILERS MAIN, AUXILIARY OR DONKEY. Manufacturers of Steel Steel Company of Scotland.

(Letter for record R.) Total Heating Surface of Boilers 852 Is forced draft fitted no No. and Description of Boilers One single ended.

Working Pressure 180 lbs. Tested by hydraulic pressure to 360 lbs. Date of test 5.8.12

No. of Certificate 11712 Can each boiler be worked separately Area of fire grate in each boiler 28.85 No. and Description of safety valves to each boiler two spring loaded

Area of each valve 3.14 Pressure to which they are adjusted 185 lbs.

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 boiler uptakes and bunkers 9" Mean dia. of boiler 10'-3" Length 9'-6"

Material of shell plates steel Thickness 7/8 Range of tensile strength 28/32 Are the shell plates welded or flanged no.

Descrip. of riveting: cir. seams D.R. long. seams T.R. D.B.S. Diameter of rivet holes in long. seams 15/16 Pitch of rivets 6 3/4

Top of plates or width of butt straps 13 7/8 Per centages of strength of longitudinal joint rivets 86.8 plate 86.1 Working pressure of shell by rules 184

Size of manhole in shell 16"x12" Size of compensating ring 9"x7" No. and Description of Furnaces in each boiler 2 Morisons

Material steel Outside diameter 3'-1 1/4" Length of plain part top 9"x7" bottom 9"x7" Thickness of plates crown 15/16 bottom 3/32

Description of longitudinal joint weld. No. of strengthening rings Working pressure of furnace by the rules 185 Combustion chamber plates: Material steel Thickness: Sides 5/8 Back 9/16 Top 5/8 Bottom 3/4

Pitch of stays to ditto: Sides 9"x8 1/4" Back 7 7/8"x7" Top 9"x8 1/4" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 180 Material of stays iron

smallest part 1-73 Area supported by each stay 55-125 Working pressure by rules 188 End plates in steam space: Material steel Thickness 15/16

Pitch of stays 15 1/2"x14" How are stays secured Screwed thru plates nuts outside. Working pressure by rules 180 Material of stays steel Diameter at smallest part 4-11

Area supported by each stay 217 Working pressure by rules 197 Material of Front plates at bottom steel Thickness 15/16 Material of Lower back plate steel

Thickness 15/16 Greatest pitch of stays 14 1/4"x7 7/8" Working pressure of plate by rules 228 Diameter of tubes 3 1/4"

Pitch of tubes 4 1/2"x4 1/4" Material of tube plates steel Thickness: Front 15/16 Back 3/4 Mean pitch of stays 9.8 Pitch across wide water spaces 14 1/4"x9" double

Working pressures by rules 262 Girders to Chamber tops: Material steel Depth and thickness of girder at centre 7"x20 3/4" Length as per rule 2'-1 1/8" Distance apart 9"

Number and pitch of Stays in each 208 1/4" Working pressure by rules 194 Superheater or Steam chest: how connected to boiler one Can the superheater be shut off and the boiler worked separately

Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness

If stiffened with rings Distance between rings Working pressure by rules End plates: Thickness How stayed Working pressure of end plates Area of safety valves to superheater Are they fitted with easing gear

The foregoing is a correct description, FOR BARCLAY CURLE & CO., LTD. Manufacturer.

Dates of Survey During progress of work in shops - - - See accompanying report Is the approved plan of boiler forwarded herewith Yes. while building During erection on board vessel - - - Total No. of visits

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) See Machinery Report.

Survey Fee ... £ : : When applied for, 191 Travelling Expenses (if any) £ : : When received, 191

Committee's Minute GLASGOW 31 DEC. 1912 Assigned See accompanying machinery report.

A. B. Forster Engineer Surveyor to Lloyd's Register of British and Foreign Shipping.

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