

REPORT ON BOILERS.

No. 32197

Date of writing Report 16.12.1912 When handed in at Local Office 27.12.1912 Port of Glasgow. Received at London Office WED. JAN. 1. 1913

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. (P. Carrier to Haps.) Port belonging to Liverpool.

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

(Letter for record *h.*) 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 28.8 *sq* No. and Description of

safety valves to each boiler *two spring loaded.* Area of each valve 3.14 *sq* 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"* *Inside* Mean dia. of boiler 10'-3" Length 9'-6"

Material of shell plates *steel* Thickness *7"* Range of tensile strength 28/32 *tons* 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 *86.8* Working pressure of shell by

rules *184* Size of manhole in shell *16" x 12"* Size of compensating ring *9" x 7"* No. and Description of Furnaces in each

boiler *2 Morisons* Material *steel* Outside diameter *3'-1 1/4"* Length of plain part *top* Thickness of plates *bottom* *15/16"*

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" x 8 1/4"* Back *7 7/8" x 7"*

Top *9" x 8 1/4"* If stays are fitted with nuts or riveted heads *nuts.* Working pressure by rules *180* Material of stays *iron* Diameter at

smallest part *1-7/8"* 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" x 14"* How are stays secured *secured with plates outside.* Working pressure by rules *180* Material of stays *steel* Diameter at smallest part *4-11/16"*

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" x 7 7/8"* Working pressure of plate by rules *228* Diameter of tubes *3 1/4"*

Pitch of tubes *4 1/2" x 4 1/4"* Material of tube plates *steel* Thickness: Front *15/16"* Back *3/4"* Mean pitch of stays *abl. 9-8"* Pitch across wide

water spaces *14 1/4" x 9/16"* Working pressures by rules *262* Girders to Chamber tops: Material *steel* Depth and thickness of

girder at centre *7" x 20 3/4"* Length as per rule *2'-1 1/16"* 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 *line* 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 *See accompanying report.* Is the approved plan of boiler forwarded herewith *yes.*

while building During erection on board vessel *See accompanying machinery report.* 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.

008288-008295-0104