

Rpt. 5a.

REPORT ON BOILERS.

No. 16580
WED. DEC. 17, 1913

Received at London Office

Date of writing Report 1913 When handed in at Local Office 12/12/1913 Port of Greenock
 No. in Survey held at Greenock Date, First Survey 10th Aug. 1912 Last Survey 5th Dec. 1913
 Reg. Book. on the TWIN SCREW STEAMER "BERRIMA" (Number of Visits 91) Gross 11,137 Tons Net 7,037
 Master Stene Built at Greenock By whom built Carr & Co. Ltd. When built 1913.
 Engines made at Greenock By whom made Carr & Co. Ltd. When made 1913.
 Boilers made at Greenock By whom made Carr & Co. Ltd. When made 1913.
 Registered Horse Power Owners Peninsular & Oriental S.S. Coy. Port belonging to Greenock.

MULTITUBULAR BOILERS—MAIN, AUXILIARY OR DONKEY.—Manufacturers of Steel A. Colville & Sons Ltd.

(Letter for record \$) Total Heating Surface of Boilers 6264 sq. ft. Is forced draft fitted Yes No. and Description of Boilers 4: 2 Cylind. Mult. 2 Double + 2 Single Working Pressure 215 lbs Tested by hydraulic pressure to 430 lbs Date of test 5/9/13
 No. of Certificate 1139. Can each boiler be worked separately Yes Area of fire grate in each boiler 48 sq. ft. No. and Description of safety valves to each boiler 2: Direct Spring Loaded Area of each valve 8.29 sq. in. Pressure to which they are adjusted 220 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 boilers or uptakes and bunkers or woodwork About 12" Mean dia. of boilers 16'.6" Length 11'.8"
 Material of shell plates Steel Thickness 1.23" Range of tensile strength 20 tons per sq. in. Are the shell plates welded or flanged No
 Descrip. of riveting: cir. seams Lap Double long. seams Stitch Butt Shape Diameter of rivet holes in long. seams 1.23" Pitch of rivets 10.2" 5.4"
 Lap of plates or width of butt straps 2.44" Per centages of strength of longitudinal joint rivets 95.2 Working pressure of shell by rules 253 lbs. Size of manhole in shell 16" x 12" Size of compensating ring 8.2" x 1.23" No. and Description of Furnaces in each boiler 4: Moussoni Material Steel Outside diameter 48.4" Length of plain part top 8.2" bottom 8.2" Thickness of plates crown 5" bottom 8"
 Description of longitudinal joint Weld No. of strengthening rings None Working pressure of furnace by the rules 233 lbs. Combustion chamber plates: Material Steel Thickness: Sides 5.8" Back 5.8" Top 4.3" Bottom 1" Pitch of stays to ditto: Sides 7.4" x 8" Back 7.4" x 8"
 Top 8" x 8.2" If stays are fitted with nuts or riveted heads Auto Working pressure by rules 218 lbs. Material of stays Steel Diameter at smallest part 1.2" Area supported by each stay 68 sq. in. Working pressure by rules 237 lbs. End plates in steam space: Material Steel Thickness 1.4"
 Pitch of stays 18.2" x 16.2" How are stays secured By nuts & washers Working pressure by rules 237 lbs. Material of stays Steel Diameter at smallest part 3.76"
 Area supported by each stay 309 sq. in. Working pressure by rules 264 lbs. Material of Front plates at bottom Steel Thickness 1.6" Material of Lower back plate Steel Thickness 1.6" Greatest pitch of stays 12" Working pressure of plate by rules 228 lbs. Diameter of tubes 2.2"
 Pitch of tubes 3.4" x 3.2" Material of tube plates Steel Thickness: Front 1.4" 1.6" Back 3.4" Mean pitch of stays 8.3" Pitch across wide water spaces 13.2" Working pressures by rules 292 lbs. 293 lbs. Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 10.2" x 1.2" Length as per rule 22.8" Distance apart 8.2" Number and pitch of Stays in each 3: 8"
 Working pressure by rules 257 lbs. Superheater or Steam chest; how connected to boiler None 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 CAIRN AND COMPANY, LIMITED
Malcolm Fisher Manufacturer.

Dates of Survey } During progress of work in shops - - } Is the approved plan of boiler forwarded herewith Yes
 while building } During erection on board vessel - - - }
See accompanying report. Total No. of visits 91

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
These Boilers were built under special survey and the materials and workmanship are good.
For recommendations, see accompanying report.

Survey Fee ... £ : } When applied for, 191...
 Travelling Expenses (if any) £ : } When received, 191...
Wm. Austin
 Engineer Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute GLASGOW 16 DEC. 1913
 Assigned See accompanying machinery report.

