

# REPORT ON BOILERS.

No. 16520  
WED. AUG. 20, 1913

Received at London Office

Date of writing Report 1913 When handed in at Local Office 15/8/1913 Port of Greenock  
 No. in Survey held at Greenock Date, First Survey 17<sup>th</sup> April 1912 Last Survey 9<sup>th</sup> Aug. 1913  
 Req. Book. "SEIYO MARU." (Number of Visits 88) Gross 6492 Tons Net 4132  
 on the SCREW STEAMER "SEIYO MARU."  
 Master Built at Port Glasgow By whom built Russell 1604 When built 1913  
 Engines made at Greenock By whom made Rankin & Blackmore When made 1913  
 Boilers made at Greenock By whom made Rankin & Blackmore When made 1913  
 Registered Horse Power Owners Port belonging to

**MULTITUBULAR BOILERS** <sup>AUX</sup> ~~MAIN, AUXILIARY OR DONKEY~~ — Manufacturers of Steel Glasgow Iron & Steel Coy. L.

(Letter for record S) Total Heating Surface of Boilers 2261 <sup>sq. ft.</sup> Is forced draft fitted Yes No. and Description of

Boilers 3 Cylinders mult. Single Working Pressure 180 <sup>lb.</sup> Tested by hydraulic pressure to 360 <sup>lb.</sup> Date of test 18/6/13

No. of Certificate 1125 Can each boiler be worked separately Yes Area of fire grate in each boiler 56 <sup>sq. ft.</sup> No. and Description of safety valves to each boiler 2: Direct Spring Area of each valve 11.04 <sup>sq. in.</sup> Pressure to which they are adjusted 185 <sup>lb.</sup>

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 9' 4" Mean dia. of boilers 14' 6" Length 11' 6"

Material of shell plates Steel Thickness 1 1/8" Range of tensile strength 29 to 32 tons Are the shell plates welded or flanged No

Descrip. of riveting: cir. seams Lap Double long. seams Butt straps Diameter of rivet holes in long. seams 1 3/16" Pitch of rivets 8 7/16" 4:34

Lap of plates or width of butt straps 18 1/4" Per centages of strength of longitudinal joint <sup>rivets 89</sup> Working pressure of shell by rules 180 <sup>lb.</sup> Size of manhole in shell 16 x 12 Size of compensating ring 30 x 26 x 1 1/2" No. and Description of Furnaces in each

boiler 3: Doughton Material Steel Outside diameter 44 1/2" Length of plain part <sup>top 17' 6"</sup> Thickness of plates <sup>bottom 32</sup> crown 17 bottom 32

Description of longitudinal joint Weld No. of strengthening rings none Working pressure of furnace by the rules 185 <sup>lb.</sup> Combustion chamber plates: Material Steel Thickness: Sides 1 1/16" Back 5/8" Top 1 1/16" Bottom 5/8" Pitch of stays to ditto: Sides 9 1/4 x 8" Back 9 1/4 x 8"

Top 7 3/4 x 10 1/2" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 181 <sup>lb.</sup> Material of stays Steel Diameter at smallest part 1 1/2" Area supported by each stay 78 <sup>sq. in.</sup> Working pressure by rules 182 <sup>lb.</sup> End plates in steam space: Material Steel Thickness 1 1/16"

Pitch of stays 21 x 15 1/2" How are stays secured Weld nuts Working pressure by rules 183 <sup>lb.</sup> Material of stays Steel Diameter at smallest part 2.7"

Area supported by each stay 300 <sup>sq. in.</sup> Working pressure by rules 180 <sup>lb.</sup> Material of Front plates at bottom Steel Thickness 1 3/16" Material of

Lower back plate Steel Thickness 3/32" Greatest pitch of stays 13" Working pressure of plate by rules 181 <sup>lb.</sup> Diameter of tubes 2 1/2"

Pitch of tubes 3 3/4 x 3 3/4" Material of tube plates Steel Thickness: Front 16 <sup>with 2</sup> Back 4 Mean pitch of stays 9 3/4" Pitch across wide

water spaces 13 3/4" Working pressures by rules 242 <sup>lb.</sup> 231 <sup>lb.</sup> Girders to Chamber tops: Material Steel Depth and thickness of

girder at centre 10 1/2 x 1 1/2" Length as per rule 34.6 Distance apart 10 1/2" Number and pitch of Stays in each 3: 7 3/4"

Working pressure by rules 182 <sup>lb.</sup> 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,  
Rankin & Blackmore Manufacturer.

Dates of Survey { During progress of work in shops - - }  
 while building { During erection on board vessel - - - }  
 Is the approved plan of boiler forwarded herewith See accompanying report. Total No. of visits 88

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

This Boiler was built under special survey and the materials and workmanship are good.  
 For recommendations, see preceding sheet

Survey Fee ... £ : : When applied for, 1913  
 Travelling Expenses (if any) £ : : When received, 1913  
Wm. Austin  
 Engineer Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute GLASGOW 19 AUG. 1913  
 Assigned See minute on attached machinery report.

