

REPORT ON BOILERS.

No. 16733.

Received at London Office

Date of writing Report 1914 When handed in at Local Office 7.8.1914 Port of Greenock
 No. in Survey held at Greenock Date, First Survey 23.6.13 Last Survey 6/8/1914
 Reg. Book. on the **SCREW STEAMER "DOGRA."** (Number of Visits 60) Tons { Gross 5738 Net 3280.5
 Master L. A. Jones Built at Port Glasgow By whom built Russell & Co. When built 1914
 Engines made at Greenock By whom made Rankin & Blackmore When made 1914
 Boilers made at Greenock By whom made Rankin & Blackmore When made 1914
 Registered Horse Power 442 Owners Avon Steam Nav. Coy. Ltd. Port belonging to Liverpool

MULTITUBULAR BOILERS — MAIN, AUXILIARY OR DONKEY. — Manufacturers of Steel Glasgow Iron Steel Coy. Ltd.

(Letter for record 1180) Total Heating Surface of Boilers 1092 Sq. ft. Is forced draft fitted No. No. and Description of Boilers 1 Cylinder Mult. Single Working Pressure 100 lb Tested by hydraulic pressure to 200 lb Date of test 10/6/14

No. of Certificate 1180 Can each boiler be worked separately Yes Area of fire grate in each boiler 32 Sq. ft. No. and Description of safety valves to each boiler 2 Direct Spring Area of each valve 5.9" Pressure to which they are adjusted 105 lb

Are they fitted with casing gear Yes In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler No.

Smallest distance between boilers or uptakes and bunkers or woodwork 1.4" Mean dia. of boilers 11' 0" Length 10' 0"

Material of shell plates Steel Thickness 19/32 Range of tensile strength 28632 tons Are the shell plates welded or flanged No.

Descrip. of riveting: cir. seams Exp. Double long. seams Exp. Butt Strap Diameter of rivet holes in long. seams 13/16 Pitch of rivets 4 1/16 2 3/32

Lap of plates or width of butt straps 8 3/4" Per centages of strength of longitudinal joint rivets 83.5 Working pressure of shell by rules 103 lb plate 82.6

Size of manhole in shell 16" x 12" Size of compensating ring 29 1/2 x 25 x 2 1/2 No. and Description of Furnaces in each boiler 2 Plain Material Steel Outside diameter 37 7/8" Length of plain part top 44 Thickness of plates crown 17 bottom 32

Description of longitudinal joint Exp. Strap No. of strengthening rings None Working pressure of furnace by the rules 108 lb Combustion chamber plates: Material Steel Thickness: Sides 17/32 Back 9/16 Top 19/32 Bottom 3/4 Pitch of stays to ditto: Sides 8 1/2 x 10 1/2 Back 10 x 10

Top 12 1/2 x 8 1/2 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 100 lb Material of stays Sp. Iron Diameter at smallest part 1 3/8" Area supported by each stay 108" Working pressure by rules 109 lb End plates in steam space: Material Steel Thickness 1 1/16"

Pitch of stays 19 x 21 How are stays secured Exp. Nuts Working pressure by rules 99 lb Material of stays Steel Diameter at smallest part 2 3/8

Area supported by each stay 399" Working pressure by rules 112 lb Material of Front plates at bottom Steel Thickness 5/8" Material of Lower back plate Steel Thickness 9/16" Greatest pitch of stays 10" Working pressure of plate by rules 109 lb Diameter of tubes 3 1/2"

Pitch of tubes 4 5/8 x 4 5/8 Material of tube plates Steel Thickness: Front 5/8" Back 3/32 Mean pitch of stays 9 1/4" Pitch across wide water spaces 13 1/2" Working pressures by rules 150 lb 102 lb Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 7 1/4" x 1 1/2" Length as per rule 28.7" Distance apart 12 3/4" Number and pitch of Stays in each 2: 8 1/2"

Working pressure by rules 114 lb Superheater or Steam chest: how connected to boiler None Can the superheater be shut off and the boiler worked separately Yes

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 casing gear

The foregoing is a correct description,
Rankin & Blackmore Manufacturer.

Dates of Survey { During progress of work in shops - - } See accompanying Machinery Report Is the approved plan of boiler forwarded herewith
 while building { During erection on board vessel - - } See accompanying Machinery Report Total No. of visits 60

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 accompanying report.

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

Wm. R. Austin Engineer-Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute FRI. AUG. 14. 1914
 Assigned See minute on G.H. attached



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