

# REPORT ON BOILERS.

No. 46750

Received at London Office 15 JUN 1927

of writing Report

192

When handed in at Local Office

10. 6.

1927

Port of Glasgowin Survey held at GlasgowDate, First Survey 20th April 1926 Last Survey 7 June 1927Boilers for T.S.S. 'EMPEROR OF AUSTRALIA' (Number of Visits 191)Gross 21861  
Tons Net 12292Built at StettinBy whom built Vulcanwerk A.G. Yard No. 4When built 1914Boilers made at GlasgowBy whom made The Fairfield S.B. & E.C. Co. Engine No. 623 When made 1927Boilers made at GlasgowBy whom made The Fairfield S.B. & E.C. Co. Boiler No. 623 When made 1927Horse Power 1Owners Canadian Pacific Ry. Co. Port belonging to London

## WATER TUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel W. Bramson & Co. Ltd.Heating Surface of Boilers 35016 <sup>6 DB</sup> Is forced draught fitted yes (Letter for Record no)Description of Boilers 6 Cyl. Mult. Double End Coal or Oil fired oilTested by hydraulic pressure to 380 lb Date of test 7.3.1927 No. of Certificate 17289, 17291, 17294, 17305 Working Pressure 220 lbNo. and Description of safety valves to each boiler 2 Cockburn Improved High LiftPressure to which they are adjusted 220 lb Are they fitted with easing gear yesIf of donkey boilers, state whether steam from main boilers can enter the donkey boiler yesLeast distance between boilers 30" Is oil fuel carried in the double bottom under boilers noLeast distance between shell of boiler and tank top plating 20" Is the bottom of the boiler insulated yesLeast internal dia. of boilers 16'-7" Length 21'-6" Shell plates: Material S. Tensile strength 30 3/4 T.Are the shell plates welded or flanged no Description of riveting: circ. seams L.D.R.Diameter of rivet holes in circ. seams 19/16 End 1 1/16 Pitch of rivets 10 9/16Percentage of strength of circ. end seams plate 62.8, 60.3 rivets 45.2, 44.5 Percentage of strength of circ. intermediate seam plate 64.9 rivets 64.2Percentage of strength of longitudinal joint plate 85.2 rivets 84.5 combined 87.2 Working pressure of shell by Rules 220 lbNo. and Description of Furnaces in each Boiler 6 DightonTensile strength 26/30 T. Smallest outside diameter 47 7/16Thickness of plates crown 23/32 Description of longitudinal joint WeldWorking pressure of furnace by Rules 224 lbPlates in steam space: Material S. Tensile strength 26/30 T. Thickness 13/16 Pitch of stays 17 3/4 x 16 1/16Working pressure by Rules 221 lbPlates: Material front S. Tensile strength 26/30 T. Thickness 29/32Pitch of stay tubes in nests 12 x 8 Pitch across wide water spaces 13 3/4 Working pressure front 223 lbPlates to combustion chamber tops: Material S. Tensile strength 28/32 T. Depth and thickness of girder back 277 lbLength as per Rule 30 3/16 Distance apart 8 3/8 No. and pitch of staysWorking pressure by Rules 220 lb Combustion chamber plates: Material S.Thickness: Sides 1 1/16 Back 1 1/16 Top 1 1/16 Bottom 7/8Stays to ditto: Sides 9 7/8 x 7 Back 8 3/8 x 8 1/4 Are stays fitted with nuts or riveted over nutsWorking pressure by Rules 225 lb Front plate at bottom: Material S. Tensile strength 26/30 T.Lower back plate: Material S. Tensile strength 28/32 T. Thickness 1 1/16Are stays fitted with nuts or riveted over yesMain stays: Material S. Tensile strength 28/32 T. Area supported by each stay 296No. of threads per inch 6 Tensile strength 1Screw stays: Material I. Tensile strength 1 Area supported by each stay 69.1No. of threads per inch 9At body of stay, or Over threads 27/8At turned off part, or Over threads 15/8

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Working pressure by Rules 220 lb Are the stays drilled at the outer ends No ✓ Margin stays: Diameter { At turned off part, or Over threads. ✓  
No. of threads per inch ✓ Area supported by each stay ✓ Working pressure by Rules ✓  
Tubes: Material I ✓ External diameter { Plain 2 3/4 Thickness { 8 w.g. ✓ No. of threads per inch 9 ✓  
Pitch of tubes 4" x 4" Working pressure by Rules 282 lb Manhole compensation: Size of opening ✓  
shell plate 20 1/2" x 16 1/2" Section of compensating ring 17 1/2" x 1 3/4" ✓ of rivets and diameter of rivet holes 40 - 19/16 ✓  
Outer row rivet pitch at ends 10 9/16 ✓ Depth of flange if manhole flanged 4" ✓ Steam Dome: Material Am ✓  
Tensile strength ✓ Thickness of shell ✓ Description of longitudinal joint ✓  
Diameter of rivet holes ✓ Pitch of rivets ✓ Percentage of strength of joint { Plate ✓ Rivets ✓  
Internal diameter ✓ Working pressure by Rules ✓ Thickness of crown ✓ No. and diameter of stays ✓  
How connected to shell ✓ Inner radius of crown ✓ Working pressure by Rules ✓  
Size of doubling plate under dome ✓ Diameter of rivet holes and of rivets in outer row in dome connection to shell ✓

Type of Superheater See in the Rpt C 6788 Manufacturers of { Tubes ✓ Steel castings ✓  
Number of elements 180 Material of tubes ✓ Internal diameter and thickness of tubes ✓  
Material of headers ✓ Tensile strength ✓ Thickness ✓ Can the superheater be shut off from the boiler ✓  
the boiler be worked separately Yes ✓ Is a safety valve fitted to every part of the superheater which can be shut off from the boiler Yes ✓  
Area of each safety valve 7.0680 ✓ Are the safety valves fitted with easing gear Yes ✓ Working pressure as and by Rules ✓  
Pressure to which the safety valves are adjusted 220 lb ✓ Hydraulic test pressure by Rules ✓  
tubes ✓, castings ✓ and after assembly in place ✓ Are drain cocks or valves fitted to free the superheater from water where necessary Yes ✓  
Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with Yes ✓

The foregoing is a correct description,

ENGINEERING CO., LIMITED. Manufactured by

Dates of Survey { During progress of work in shops - - - See Accompanying Machinery report ✓  
while building { During erection on board vessel - - - ✓  
Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) Yes ✓  
Total No. of visits 191

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These boilers have been constructed under special survey in accordance with the Rules, and have now been fitted on board the above vessel.

Survey Fee ... £ ✓ : : When applied for, 192  
Travelling Expenses (if any) £ ✓ : : When received, 192

W. Lane

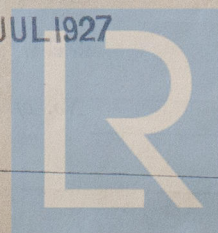
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute GLASGOW 14 JUN 1927

FRI. 24 JUN 1927

FRI. 29 JUL 1927

Assigned See accompanying report.



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