

## REPORT ON BOILERS.

No. 8759.

Received at London Office 14 JUL 1925

of writing Report 26. 5 1925 When handed in at Local Office 28. 5 1925 Port of Sydney, N.S.W.

in Survey held at Sydney, N.S.W. Date, First Survey 17<sup>th</sup> June 1924 Last Survey 18. 5 1925

on the S. S. "CAPE LEEUWIN" (Number of Visits ) Tons { Gross 1406 Net 495

Australian Commonwealth Shipping Board

Built at Sydney NSW By whom built Cockatoo Dockyard Yard No. 101 When built 1925

nes made at Sydney NSW By whom made " " " Engine No. 101 When made 1925

2 rs made at Sydney NSW By whom made " " " Boiler No. 101 When made 1925

23 al Horse Power 230. Owners Commonwealth Government of Aust. Port belonging to Fremantle.

## MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Port Talbot Steel Co. L<sup>d</sup>. South Durham I & C. Scottish Tube Co. (Letter for Record S ✓) British Mannesman + ✓

1 Heating Surface of Boilers 4451 ft<sup>2</sup> Is forced draught fitted No ✓ Coal or Oil fired Both ✓

2 and Description of Boilers Two Cylindrical Multitubular S.E. Scotch. Working Pressure 180 ✓

25 d by hydraulic pressure to 320 lb Date of test 22. 1. 25 No. of Certificate 49. A ✓ Can each boiler be worked separately Yes ✓

of Firegrate in each Boiler 67 ft<sup>2</sup> No. and Description of safety valves to each boiler Cockburn + Mc Nicol's ✓

of each set of valves per boiler { per Rule 11. 4 as fitted 11. 86 ✓ Pressure to which they are adjusted 180 ✓ Are they fitted with easing gear Yes ✓

se of donkey boilers, state whether steam from main boilers can enter the donkey boiler ✓

5 lest distance between boilers or uptakes and bunkers or woodwork 22" ✓ Is oil fuel carried in the double bottom under boilers No ✓

6 lest distance between shell of boiler and tank top plating 21" ✓ Is the bottom of the boiler insulated No ✓

est internal dia. of boilers 15'-6" Length 10'-10<sup>3</sup>/<sub>16</sub>" Shell plates: Material Steel ✓ Tensile strength 28-35 Tons ✓

ness 1<sup>5</sup>/<sub>16</sub>" Are the shell plates welded or flanged No ✓ Description of riveting: circ. seams { end Double ✓ inter. ✓

seams Double Straps T.R. Diameter of rivet holes in { circ. seams 1<sup>5</sup>/<sub>16</sub>" ✓ Pitch of rivets { 3<sup>4</sup>/<sub>16</sub>" ✓ 4<sup>1</sup>/<sub>16</sub>" and 9<sup>3</sup>/<sub>8</sub>" ✓

entage of strength of circ. end seams { plate 66% ✓ rivets 47<sup>1</sup>/<sub>2</sub>% ✓ Percentage of strength of circ. intermediate seam { plate Nil ✓ rivets Nil ✓

entage of strength of longitudinal joint { plate 86% ✓ rivets 84.5% ✓ combined 88% ✓ Working pressure of shell by Rules 185 lbs. ✓

tness of butt straps { outer 1" ✓ inner 1<sup>1</sup>/<sub>8</sub>" ✓ No. and Description of Furnaces in each Boiler Three Leeds Forge Bull Suspension 3cf. ✓

rial Steel ✓ Tensile strength 26-30 Tons ✓ Smallest outside diameter 3'-10<sup>1</sup>/<sub>8</sub>" ✓

th of plain part { top ✓ bottom ✓ Thickness of plates { crown 9" ✓ bottom 16" ✓ Description of longitudinal joint Welded ✓

ensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules 187 lbs. ✓

plates in steam space: Material Steel ✓ Tensile strength 26-30 ✓ Thickness 1<sup>5</sup>/<sub>32</sub>" ✓ Pitch of stays 20<sup>7</sup>/<sub>8</sub>" x 15<sup>1</sup>/<sub>2</sub>" ✓

are stays secured Double nuts and washers ✓ Working pressure by Rules 184 lbs. ✓

plates: Material { front Steel ✓ back Steel ✓ Tensile strength { 26-30 Tons ✓ Thickness { 15<sup>1</sup>/<sub>16</sub>" + 13<sup>1</sup>/<sub>16</sub>" BACK ✓

pitch of stay tubes in nests 11<sup>1</sup>/<sub>4</sub>" Pitch across wide water spaces 14<sup>1</sup>/<sub>4</sub>" ✓ Working pressure { front 213 lbs. ✓ back 198 lbs. ✓

ers to combustion chamber tops: Material Steel ✓ Tensile strength 28-35 Tons ✓ Depth and thickness of girder

atre 10" x 1<sup>1</sup>/<sub>2</sub>" (2a<sup>3</sup>/<sub>4</sub>) Length as per Rule 2-6<sup>1</sup>/<sub>2</sub>" ✓ Distance apart 11" ✓ No. and pitch of stays

ch 3 a 7" pitch Working pressure by Rules 209 lbs. ✓ Combustion chamber plates: Material Steel ✓

le strength 26-30 ✓ Thickness: Sides 11" ✓ Back 11" ✓ Top 11" ✓ Bottom 3<sup>1</sup>/<sub>4</sub>" ✓

of stays to ditto: Sides 8<sup>3</sup>/<sub>4</sub>" x 7" ✓ Back 9" x 8<sup>2</sup>/<sub>32</sub>" ✓ Top 11" x 7" ✓ Are stays fitted with nuts or riveted over Nuts ✓

ing pressure by Rules 194 lbs. ✓ Front plate at bottom: Material Steel ✓ Tensile strength 26-30 Tons ✓

5 nness 1<sup>5</sup>/<sub>16</sub>" ✓ Lower back plate: Material Steel ✓ Tensile strength 26-30 Tons ✓ Thickness 15<sup>1</sup>/<sub>16</sub>" ✓

of stays at wide water space 14<sup>1</sup>/<sub>4</sub>" x 8<sup>2</sup>/<sub>32</sub>" doubled Are stays fitted with nuts or riveted over Nuts ✓

ing Pressure 260 lbs. ✓ Main stays: Material Steel ✓ Tensile strength 28-35 Tons ✓

ping. { At body of stay, 2<sup>7</sup>/<sub>8</sub>" ✓ No. of threads per inch Six ✓ Area supported by each stay 323.5 sq" ✓

ter { Over threads 2<sup>7</sup>/<sub>8</sub>"

ing pressure by Rules 188 lbs. ✓ Screw stays: Material Steel ✓ Tensile strength 26-30 ✓

ter { At turned off part, " No. of threads per inch Nine ✓ Area supported by each stay 77.8 sq" ✓

Over threads 1<sup>1</sup>/<sub>2</sub>", 1<sup>5</sup>/<sub>8</sub>", 1<sup>3</sup>/<sub>4</sub>", 1<sup>1</sup>/<sub>8</sub>" + 2<sup>7</sup>/<sub>8</sub>"

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Working pressure by Rules 195 lbs. Are the stays drilled at the outer ends ☒ no Margin stays: Diameter { At turned off part, 1 3/4" or Over threads 1 3/4" ✓  
No. of threads per inch 9 ✓ Area supported by each stay 100 sq. in. Working pressure by Rules 180.5 lbs.  
Tubes; Material Steel ✓ External diameter { Plain N° 9 L S G. 3 1/4" Thickness { N° 9 L S G. 5/16 - 3/8 No. of threads per inch 9 ✓  
Pitch of tubes 4 1/2" x 4 1/2" ✓ Working pressure by Rules 180 lbs Manhole compensation: Size of opening 34 x 1 3/2"  
shell plate 20 5/8" x 16 5/8" ✓ Section of compensating ring 39 5/8" x 35 5/8" x 1 5/16" No. of rivets and diameter of rivet holes 34 x 1 3/2"  
Outer row rivet pitch at ends 8 1/2" ✓ Depth of flange if manhole flanged 3" ✓ Steam Dome: Material ✓  
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 rivets ✓  
stays ✓ Inner radius of crown ✓ Working pressure by Rules ✓  
How connected to shell ✓ Size of doubling plate under dome ✓ Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell ✓

Type of Superheater ✓ Manufacturers of { Tubes ✓ Steel castings ✓  
Number of elements ✓ 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 ✓ Is a safety valve fitted to every part of the superheater which can be shut off from the boiler ✓  
Area of each safety valve ✓ Are the safety valves fitted with easing gear ✓ Working pressure ✓  
Rules ✓ Pressure to which the safety valves are adjusted ✓ Hydraulic test pressure ✓  
tubes ✓, castings ✓ and after assembly in place ✓ Are drain cocks or valves fitted to free the superheater from water where necessary ✓

Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with Yes

The foregoing is a correct description,

R. Farquhar Director of Shipbuilding, Cockatoo Island, Sydney, Manuf.

Dates of Survey { During progress of work in shops - - - Sisidien, 8.8.24 - 18.3.25 Are the approved plans of boiler and superheater forwarded herewith Yes  
(If not state date of approval.)  
while building { During erection on board vessel - - - Ten, 27.2.25 - 18.5.25 Total No. of visits 26

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These Main Boilers have been constructed in accordance with the printed Rules and under special survey; they have tested by hydraulic pressure as per Rules, Safety valves adjusted under steam and accumulative tests seem satisfactory. The Boilers are securely and satisfactorily fitted on board and have been seen sound and tight under a full head of steam and now in my opinion eligible for Record in Register Book.  
Sections 34 and 35 of the Rules complied with.

Survey Fee ... £ : : When applied for, 192  
Travelling Expenses (if any) £ : : When received, 192  
Included in Machinery Report

A.C. Heron

E.L. Cartwright

Engineer Surveyor to Lloyd's Register of Ships

Committee's Minute FRI. 31 JUL 1925

Assigned



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