

# REPORT ON BOILERS.

No. 72/4.

Received at London Office

22 MAR 1926

Date of writing Report 15<sup>th</sup> March 1926. When handed in at Local Office 19 Port of Copenhagen

No. in Survey held at Copenhagen Date, First Survey 23<sup>rd</sup> November 1925 Last Survey 4<sup>th</sup> March 1926  
Reg. Book. 567m.

40052 on the Steel Screw Motor Vessel "MOMBA" (Number of Visits 15) Tons { Gross 3020.74  
Net 1758.17

Built at Copenhagen. By whom built Akt. Burmeister & Wain's Maskin og Skibsbyggeri. Yard No. 341. When built 1926.

Engines made at Copenhagen. By whom made Akt. Burmeister & Wain's Maskin og Skibsbyggeri. Engine No. 1153. When made 1926.

Boilers made at Copenhagen. By whom made Akt. Burmeister & Wain's Maskin og Skibsbyggeri. Boiler No. 1790 When made 1926.

Owners The Adelaide Steamship Co., Ltd. Port belonging to Sydney N.S.W.

## VERTICAL DONKEY BOILER.

Made at Copenhagen By whom made Akt. Burmeister & Wain's Maskin og Skibsbyggeri Boiler No. 1790 When made 1926 Where fixed in the engine room.

Manufacturers of Steel Plates: Henschel & Sohn Akt. Maschinenbau, Hattingen a. Ruhr, Germany. Uptake & Galloway tubes: Galloways Ltd. Manchester.  
Stay bars: David Colville & Sons, Ltd. Helmswell, Scotland. Rivets: Hinge & Sons, Copenhagen, of bars from Steel Company of Scotland.

Total Heating Surface of Boiler 100 sq ft Is forced draught fitted no Coal or Oil fired Oil fired

No. and Description of Boilers One vertical cross-tube boiler. Working pressure 7 ATM = 100 lbs

Tested by hydraulic pressure to 14 ATM. Date of test 5<sup>th</sup> February 1926 No. of Certificate 454.

Area of Firegrate in each Boiler 12.5 sq ft No. and Description of safety valves to each boiler 2 off, direct spring loaded.

Area of each set of valves per boiler { per rule 2.6 sq ft  
as fitted 4.8 sq ft Pressure to which they are adjusted 7 ATM = 100 lbs Are they fitted with easing gear yes

State whether steam from main boilers can enter the donkey boiler no main boilers. Smallest distance between boiler or uptake and bunkers

or woodwork woodwork. Is oil fuel carried in the double bottom under boiler yes Smallest distance between base of boiler and tank top plating

38" Is the base of the boiler insulated yes Largest internal dia. of boiler 1370 mm Height 3200 mm

Shell plates: Material S.M. Steel Tensile strength 46.0 to 46.4 kg per sq cm. Thickness 10 mm

Are the shell plates welded or flanged riveted Description of riveting: circ. seams { end lap joint, single riveted.  
inter. long. seams lap joint, double riveted.

Dia. of rivet holes in { circ. seams 19 mm  
long. seams 19 mm Pitch of rivets { 45 mm  
62 mm Percentage of strength of circ. seams { plate 57.8  
rivets 51.5 of Longitudinal joint { plate 69.3  
rivets 74.8  
combined.

Working pressure of shell by rules 9.21 ATM. Thickness of butt straps { outer inner

Shell Crown: Whether complete hemisphere, dished partial spherical, or flat Flat crown. Material S.M. Steel.

Tensile strength 41.4 kg per sq cm Thickness 22 mm Radius Working pressure by rules 9.24 ATM.

Description of Furnace: Plain, spherical, or dished crown Plain crown. Material S.M. Steel Tensile strength 42.5-46.2 kg per sq cm

Thickness 14.5 mm External diameter { top 1029 mm  
bottom 1229 mm Length as per rule 1732 mm Working pressure by rules 6.9 ATM.

Pitch of support stays circumferentially none and vertically 4 off Are stays fitted with nuts or riveted over Fitted with nuts and washers.

Diameter of stays over thread 2 1/4" Radius of spherical or dished furnace crown Flat crown Working pressure by rule 8.9 ATM.

Thickness of Ogee Ring Diameter as per rule { D  
d Working pressure by rule

Combustion Chamber: Material Tensile strength Thickness of top plate

Radius if dished Working pressure by rule Thickness of back plate Diameter if circular

Length as per rule Pitch of stays Are stays fitted with nuts or riveted over

Diameter of stays over thread Working pressure of back plate by rules

Tube Plates: Material { front Tensile strength Thickness Mean pitch of stay tubes in nests  
back

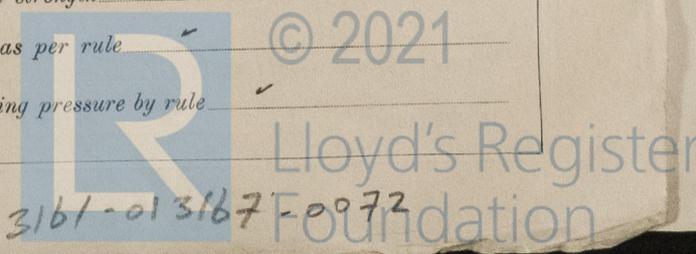
If comprising shell, Dia. as per rule { front Pitch in outer vertical rows Dia. of tube holes FRONT { stay BACK { stay  
back plain plain

Is each alternate tube in outer vertical rows a stay tube Working pressure by rules { front back

Girders to combustion chamber tops: Material Tensile strength

Depth and thickness of girder at centre Length as per rule

Distance apart No. and pitch of stays in each Working pressure by rule



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**Crown stays:** Material  Tensile strength  Diameter { at body of stay,  or over threads,

No. of threads per inch  Area supported by each stay  Working pressure by rules

**Screw stays:** Material  Tensile strength  Diameter { at turned off part,  or over threads,  No. of threads per inch

Area supported by each stay  Working pressure by rules  Are the stays drilled at the outer ends

**Tubes:** Material  External diameter { plain,  stay,  Thickness {

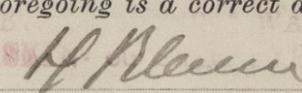
No. of threads per inch  Pitch of tubes  Working pressure by rules

**Manhole Compensation:** Size of opening in <sup>crown</sup> ~~shell~~ plate  $305 \text{ mm} \times 405 \text{ mm}$  Section of compensating ring Plate flanged No. of rivets and diameter of rivet holes  Outer row rivet pitch at ends  Depth of flange if manhole flanged  $75 \text{ mm}$

**Uptake:** External diameter  $364 \text{ mm}$  Thickness of uptake plate  $12 \text{ mm}$

**Cross Tubes:** No. 3 off. External diameters {  $320 \text{ mm}$  Thickness of plates  $10 \text{ mm}$

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

The foregoing is a correct description,  
 Manufacturer.

Dates of Survey { During progress of work in shops - - }  $23/11, 30/11, 8/12, 19/12, 25/12, 7/1, 15/1, 1/2, 5/2, 1926$  Is the approved plan of boiler forwarded herewith Yes.  
(If not state date of approval.)

{ During erection on board vessel - - }  $15/2, 18/2, 23/2, 26/2, 2/3, 4/3, 1926$  Total No. of visits 15.

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

The donkey boiler has been constructed under Special Survey in accordance with the requirements of the Rules, the approved plan and the requirement contained in the London letter E dated the 8<sup>th</sup> May 1925.

The material and workmanship are of good description in every respect.

The material used in the construction of the boiler has been tested as required by the Rules, as per certificates produced. —

A duplex pump (Worthington system)  $90 \text{ mm} \times 60 \text{ mm} \times 90 \text{ mm}$ , and a feed injector have been fitted for feeding the donkey boiler. —

The boiler has been fitted onboard the vessel and connected complete as required by the Rules and to our satisfaction. —

Recommend the vessel to have notation in the Register Book of DB-10076s.

Survey Fee + Installation £127.95 : When applied for, 20.3.1926.

Travelling Expenses (if any) £ : : When received, 16.4.1926.

Det. Debeck. S. Pleumer.  
 Engineer Surveyors to Lloyd's Register of Shipping.

Committee's Minute FRI. 26 MAR 1926

Assigned See J. Expt. attached



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