

REPORT ON BOILERS.

No. 4942

Port of **MIDDLESBROUGH-ON-TEES**

Received at London Office

FUES. APL 23 1907

No. in Survey held at **Stockton** Date, first Survey **24th Febr** Last Survey **2nd April 1907**
 Reg. Book. on the **Donkey Boiler (N^o 3811)** **S.S. Makambo** (Number of Visits **5**)
 Master Built at **Port Glasgow** By whom built **Clyde SA & Eng Co Ltd** When built **1907**
 Engines made at **Port Glasgow** By whom made **Clyde SA & Eng Co Ltd** when made **1907**
 Boilers made at **do** By whom made **do** when made **1907**
 Registered Horse Power Owners **Brown, Philp & Co** Port belonging to **Sydney**

MULTITUBULAR BOILERS—MAIN, AUXILIARY OR DONKEY.—Manufacturers of Steel

(Letter for record) Total Heating Surface of Boilers Is forced draft fitted No. and Description of Boilers Working Pressure Tested by hydraulic pressure to Date of test

No. of Certificate Can each boiler be worked separately Area of fire grate in each boiler No. and Description of safety valves to each boiler Area of each valve Pressure to which they are adjusted

Are they fitted with easing gear In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler

Smallest distance between boilers or uptakes and bunkers or woodwork Mean dia. of boilers Length

Material of shell plates Thickness Range of tensile strength Are the shell plates welded or flanged

Descrip. of riveting: cir. seams long. seams Diameter of rivet holes in long. seams Pitch of rivets

Lap of plates or width of butt straps Per centages of strength of longitudinal joint rivets plate Working pressure of shell by rules

Size of manhole in shell Size of compensating ring No. and Description of Furnaces in each boiler

Description of longitudinal joint No. of strengthening rings Working pressure of furnace by the rules Combustion chamber

plates: Material Thickness: Sides Back Top Bottom Pitch of stays to dittø: Sides Back

Top If stays are fitted with nuts or riveted heads Working pressure by rules Material of stays Diameter at smallest part Area supported by each stay Working pressure by rules End plates in steam space: Material Thickness

Pitch of stays How are stays secured Working pressure by rules Material of stays Diameter at smallest part

Area supported by each stay Working pressure by rules Material of Front plates at bottom Thickness Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules Diameter of tubes

Pitch of tubes Material of tube plates Thickness: Front Back Mean pitch of stays Pitch across wide water spaces Working pressures by rules Girders to Chamber tops: Material Depth and thickness of girder at centre Length as per rule Distance apart Number and pitch of Stays in each

Working pressure by rules Superheater or Steam chest; how connected to boiler 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

VERTICAL DONKEY BOILER— No. **One** Description **3 Cross tubes.** Manufacturers of steel **J. Spencer & Sons Ltd**
 Made at **Stockton** By whom made **Riley Bros (Boilermakers) Ltd** When made **1907** Where fixed Working pressure **100 lbs**
 tested by hydraulic pressure to **200**. Date of test **19.3.1907** No. of Certificate **3678** Fire grate area **23 sq ft** Description of safety valves
 No. of safety valves Area of each Pressure to which they are adjusted If fitted with easing gear If steam from main boilers can enter the donkey boiler
 Dia. of donkey boiler **6'-6"** Length **12'-0"** Material of shell plates **Steel** Thickness **1/2"** Range of tensile strength **27/32** Descrip. of riveting long. seams **I. R. Lap.** Dia. of rivet holes **15/16** Whether punched or drilled Pitch of rivets **2 7/8"**
 Lap of plating **4 7/8"** Per centage of strength of joint Rivets **4.5** Plates **67.4** Working pressure of shell by rules **101 lbs.** Thickness of shell crown plates **9/16"**
 Radius of do. **Diagonal** No. of Stays to do. **7** Dia. of stays **2 1/8"** Diameter of furnace Top **4'-10 1/2"** Bottom **3'-6 9/16"** Length of furnace **4'-8"**
 Thickness of furnace plates **3/4"** Description of joint **S. R. Lap.** Working pressure of furnace by rules **127 lbs.** Thickness of furnace crown plates **2 1/32"** Radius of do. **5'-0"** Stayed by **✓** Diameter of uptake **16"** Thickness of uptake plates **7/16"**
 Thickness of water tubes **3/8"**

The foregoing is a correct description, Manufacturer.

Dates of Survey while building
 During progress of work in shops -- } 1907. Febr 24. 28. March 18. 19.
 During erection on board vessel --- } April 2
 Total No. of visits **5**

Is the approved plan of main boiler forwarded herewith
 " " " donkey " " **Yes.**



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

This boiler has been built under Special Survey. The materials and workmanship are good and efficient. After satisfactory withstanding the hydraulic test it has been despatched for fitting on board.

Certificate (if required) to be sent to
(The Surveyors are requested not to write in or below the space for Committee's Minute.)

The amount of Entry Fee...	£	:	:	When applied for,
Special	£	:	:	19
Donkey Boiler Fee ...	£	e	e	When received,
Travelling Expenses (if any) £	:	:	:	19

W. J. ...
27/6/07 24/4/07

A. J. Duason
Engineer Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute Glasgow 22 APR 1907

Assigned see accompanying report

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