

Rpt. 5.

REPORT ON BOILERS.

No. 24828

Port of *Glasgow* Received at London Office *TUES. 21 AUG 1906*
 No. in Survey held at *Northwell* Date, First Survey *19 July* Last Survey *6/8/06*
 Reg. Book. *Donkey Boilers for S. S. "Berne"* (Number of Visits *3*)
 Master *Donkey Boilers for S. S. "Berne"* Built at *Northwell* By whom built *James & Co* When built *1906*
 Engines made at *Northwell* By whom made *(Ross & Duncanson 1066)* When made *1906*
 Boilers made at *Northwell* By whom made *(Marshall 108273)* when made *1906*
 Registered Horse Power *100* Owners *S. S. "Berne"* Port belonging to *Glasgow*

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 Working pressure of shell by rules
 Size of manhole in shell Size of compensating ring No. and Description of Furnaces in each boiler
 Material Outside diameter Length of plain part top Thickness of plates crown bottom
 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 ditto: 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. *8243* Description *Cross Tube* Manufacturers of steel *D. D. & Sons*
 Made at *Northwell* By whom made *John Marshall & Co* When made *Aug 06* Where fixed *In Stockholm* Working pressure *45 lbs*
 tested by hydraulic pressure to *150 lbs* Date of test *6/8/06* No. of Certificate *8243* Fire grate area *22 sq ft* Description of safety valves *Direct Spring*
 No. of safety valves *One* Area of each *11.04 sq ft* Pressure to which they are adjusted *45 lbs* If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *No* Dia. of donkey boiler *6'-0"* Length *10'-6"* Material of shell plates *Steel* Thickness *3/8"* Range of tensile strength *28-32* Descrip. of riveting long. seams *Old riv lap* Dia. of rivet holes *1 3/16"* Whether punched or drilled *Drilled* Pitch of rivets *2 5/8"*
 Lap of plating *4"* Per centage of strength of joint Rivets *6.6* Working pressure of shell by rules *44.3* Thickness of shell crown plates *9/16"*
 Radius of do. *6'-0"* No. of Stays to do. *5* Dia. of stays *1 5/8"* Diameter of furnace Top *5'-0"* Bottom *5'-5" inside* Length of furnace *6'-6"*
 Thickness of furnace plates *1 3/32* Description of joint *1/2 Sing riv* Working pressure of furnace by rules *110 lbs* Thickness of furnace crown plates *19/32* Radius of do. *5'-0"* Stayed by *5 1/8" dia* Diameter of uptake *16"* Thickness of uptake plates *1/2"*
 Thickness of water tubes *3/8"*

The foregoing is a correct description,
 For *John Marshall & Co* Manufacturer.

Dates of Survey while building
 During progress of work in shops -- *1906: July 19, 27 Aug 6*
 During erection on board vessel --
 Total No. of visits *3*

Is the approved plan of main boiler forwarded herewith

" " " donkey "

009655-009666-0201

REPORT ON BOILERS

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
 This Boiler has been made under Survey. The Material and Workmanship are of good description and the Hydraulic test proved satisfactory.

MULTITUBULAR BOILERS - MAIN, AUXILIARY OR DONKEY.

Boilers		Total Heating Surface of Boilers		Working Pressure		Area of fire grate in each boiler	
No. of Boilers							
Material of shell plates	Thickness	Range of tensile strength	Are the shell plates welded or lapped	Length	Mean dia. of boiler	Smallest distance between boilers or between and headers or woodwork	Are they fitted with casing gear
Direction of riveting, or seams	long, seams	Diameter of rivet holes in long, seams	Pitch of rivets	Per centage of strength of longitudinal joint	Working pressure in shell in plates	Lap of plates or width of butt straps	Size of manhole in shell
Material	Thickness	No. of strengthening rings	Working pressure of furnace by the rules	Length of plain part	Thickness of plates	Consideration of	
Top	Back	Bottom	Pitch of stays to ditto: Sides	Back	Material of stays	Working pressure by rules	End plates in steam space: Material
Material of tube plates	Thickness: Front	Back	Mean pitch of stays	Working pressure of plates by rules	Material of front plates at bottom	Thickness	Material of
Working pressure by rules	Length as per rule	Thickness of shell plates	Material of shell plates	Working pressure of shell by rules	Material of this plates	Thickness	How stayed
Distance between rings	Working pressure by rules	End plates: Thickness	How stayed	Are they fitted with casing gear			

VERTICAL DONKEY BOILER

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The amount of Entry Fee... £
 Special ... £
 Donkey Boiler Fee ... £ 2 : 2 :
 Travelling Expenses (if any) £
 When applied for: 20 AUG 1906
 When received: 27.8.1906
 Glasgow 20 AUG 1906
 FRI. 19 OCT 1906
 William Butler, James Hollison
 Engineer Surveyor to Lloyd's Register of British and Foreign Shipping.
 Clydes District.
 Committee's Minute
 Assigned - Transmit to London



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