

# REPORT ON MACHINERY.

Port of Glasgow

Received at London Office 19

No. in Survey held at Glasgow

Date, first Survey 20 Sept 01 Last Survey 9 April 1902

Reg. Book.

(Number of Visits 18)

89 on the Donkey Boiler for the Steamer "Magagan"

Tons { Gross  
Net

Master Built at Trangemoutt By whom built Trangemoutt & Co. Ltd. When built 1902

Engines made at Dumdee By whom made Cooper & Greig when made 1902

Boilers made at Glasgow By whom made Lindsay Burnet & Co. (No. 880) when made 1902

Registered Horse Power Owners Forwood Bros Port belonging to London

Nom. Horse Power as per Section 28

Is Refrigerating Machinery fitted

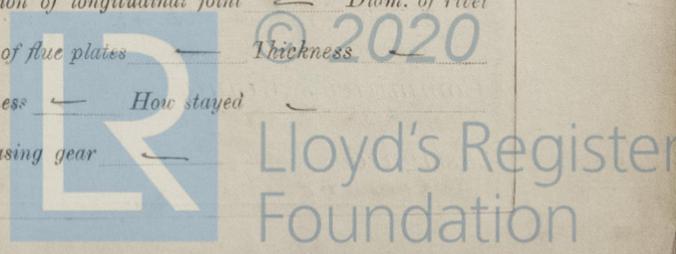
Is Electric Light fitted

## ENGINES, &c.—Description of Engines

Description of Engines		No. of Cylinders	No. of Cranks
Dia. of Cylinders	Length of Stroke	Revs. per minute	Dia. of Screw shaft <sup>as per rule</sup> <sub>as fitted</sub>
Dia. of Tunnel shaft <sup>as per rule</sup> <sub>as fitted</sub>	Dia. of Crank shaft journals <sup>as per rule</sup> <sub>as fitted</sub>	Dia. of Crank pin	Lqth. of stern bush
Collars	Dia. of screw	Pitch of screw	No. of blades
No. of Feed pumps	Diameter of ditto	Stroke	State whether moceable
No. of Bilge pumps	Diameter of ditto	Stroke	Total surface
No. of Donkey Engines	Sizes of Pumps	No. and size of Suctions connected to both Bilge and Donkey pumps	
In Engine Room	In Holds, &c.		
No. of bilge injections	sizes	Connected to condenser, or to circulating pump	Is a separate donkey suction fitted in Engine room & size
Are all the bilge suction pipes fitted with roses	Are the roses in Engine room always accessible	Are the sluices on Engine room bulkheads always accessible	
Are all connections with the sea direct on the skin of the ship	Are they Valves or Cocks		
Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates	Are the discharge pipes above or below the deep water line		
Are they each fitted with a discharge valve always accessible on the plating of the vessel	Are the blow off cocks fitted with a spigot and brass covering plate		
What pipes are carried through the bunkers	How are they protected		
Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times			
Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges			
When were stern tube, propeller, screw shaft, and all connections examined	In dry dock		Is the screw shaft tunnel watertight
Is it fitted with a watertight door	<u>Donkey Boiler</u> worked from		

## BOILERS, &c.— (Letter for record (S) ) Total Heating Surface of Boilers 512 Is forced draft fitted

No. and Description of Boilers	<u>One Single Ended Mult. Working Pressure 80 lbs</u>		Tested by hydraulic pressure to <u>160 lbs</u>
Date of test <u>9/4/02</u>	Can each boiler be worked separately	Area of fire grate in each boiler	No. and Description of safety valves to each boiler
Smallest distance between boilers or uptakes and bunkers or woodwork	Area of each valve	Pressure to which they are adjusted	Are they fitted with easing gear
Thicknes <u>1/2"</u>	Range of tensile strength <u>28/32</u>	Are they welded or flanged <u>No</u>	Descrip. of riveting: cir. seams <u>S. R. Lap</u> long. seams <u>D. R. Lap</u>
Diameter of rivet holes in long. seams <u>15/16"</u>	Pitch of rivets <u>3 1/8"</u>	Lap of plates or width of butt straps <u>4 1/2"</u>	
Per centages of strength of longitudinal joint	rivets <u>75</u>	Working pressure of shell by rules <u>85 lbs</u>	Size of manhole in shell <u>16" x 12"</u>
Size of compensating ring <u>6" x 9/16"</u>	No. and Description of Furnaces in each boiler <u>2 plain</u>	Material <u>slit</u>	Outside diameter <u>2'-6"</u>
Length of plain part <u>58"</u>	Thickness of plates <u>13/32"</u>	Description of longitudinal joint <u>welded</u>	No. of strengthening rings <u>None</u>
Working pressure of furnace by the rules <u>102 lbs</u>	Combustion chamber plates: Material <u>slit</u>	Thickness: Sides <u>15/32"</u> Back <u>15/32"</u> Top <u>15/32"</u> Bottom <u>15/32"</u>	
Pitch of stays to ditto: Sides <u>8" x 9"</u> Back <u>9" x 9"</u> Top <u>8" x 10"</u>	If stays are fitted with nuts or riveted heads <u>Nuts</u>	Working pressure by rules <u>83 lbs</u>	
Material of stays <u>slit</u>	Diameter at smallest part <u>.96</u>	Area supported by each stay <u>81"</u>	Working pressure by rules <u>95 lbs</u>
Material <u>slit</u>	Thickness <u>1/16"</u>	Pitch of stays <u>15"</u>	How are stays secured <u>Draw Nuts</u>
Material <u>slit</u>	Diameter at smallest part <u>2.02</u>	Area supported by each stay <u>350"</u>	Working pressure by rules <u>80 lbs</u>
Thickness <u>1/16"</u>	Material of Lower back plate <u>slit</u>	Thickness <u>1/16"</u>	Greatest pitch of stays <u>9"</u>
Diameter of tubes <u>3"</u>	Pitch of tubes <u>4"</u>	Material of tube plates <u>slit</u>	Thickness: Front <u>1/16"</u> Back <u>1/16"</u>
Pitch across wide water spaces <u>13"</u>	Working pressures by rules <u>117 lbs</u>	Girders to Chamber tops: Material <u>slit</u>	Depth and thickness of girder at centre <u>(6 x 1/2)" 2</u>
Length as per rule <u>24"</u>	Distance apart <u>10"</u>	Number and pitch of Stays in each <u>2 - 8"</u>	
Working pressure by rules <u>93 lbs</u>	Superheater or Steam chest; how connected to boiler <u>None</u>	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	
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	



**DONKEY BOILER—** No. \_\_\_\_\_ Description \_\_\_\_\_

Made at \_\_\_\_\_ By whom made \_\_\_\_\_ When made \_\_\_\_\_ Where fixed \_\_\_\_\_

Working pressure tested by hydraulic pressure to \_\_\_\_\_ No. of Certificate \_\_\_\_\_ Fire grate area \_\_\_\_\_ 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 \_\_\_\_\_ Length \_\_\_\_\_ Material of shell plates \_\_\_\_\_ Thickness \_\_\_\_\_ Range of tensile strength \_\_\_\_\_

Descrip. of riveting long. seams \_\_\_\_\_ Dia. of rivet holes \_\_\_\_\_ Whether punched or drilled \_\_\_\_\_ Pitch of rivets \_\_\_\_\_

Lap of plating \_\_\_\_\_ Per centage of strength of joint \_\_\_\_\_ Rivets \_\_\_\_\_ Thickness of shell crown plates \_\_\_\_\_ Radius of do. \_\_\_\_\_ No. of Stays to do. \_\_\_\_\_

Dia. of stays \_\_\_\_\_ Diameter of furnace Top \_\_\_\_\_ Bottom \_\_\_\_\_ Length of furnace \_\_\_\_\_ Thickness of furnace plates \_\_\_\_\_ Description of joint \_\_\_\_\_

Thickness of furnace crown plates \_\_\_\_\_ Stayed by \_\_\_\_\_ Working pressure of shell by rules \_\_\_\_\_

Working pressure of Furnace by rules \_\_\_\_\_ Diameter of uptake \_\_\_\_\_ Thickness of uptake plates \_\_\_\_\_ Thickness of water tubes \_\_\_\_\_

**SPARE GEAR.** State the articles supplied:— \_\_\_\_\_

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building { During progress of work in shops - - } 1901: - Sep. 20, 25, Oct. 2, 11, 24, Nov. 6, 20, 25, Dec. 10, 1902: Jan. 10, 24, 30, Feb. 19, Mar. 10, 19, 27, Apr. 1, 9.

Total No. of visits 18.

Is the approved plan of main boiler forwarded herewith \_\_\_\_\_  
 " " " donkey " " " No

**General Remarks** (State quality of workmanship, opinions as to class, &c.)

Material of screw shaft \_\_\_\_\_ Is the screw shaft fitted with a continuous liner the whole length of the stern tube \_\_\_\_\_

Is the after end of the liner made water tight in the propeller boss \_\_\_\_\_ If the liner is in more than one length are the joints burned \_\_\_\_\_

If the liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive \_\_\_\_\_

If two liners are fitted, is the shaft lapped or protected between the liners \_\_\_\_\_

This Donkey Boiler has been constructed under Special Survey & is of good materials & workmanship. It has been sent to Dundee.

The amount of Entry Fee. . . £ : : When applied for, 7/5/02  
 Special . . . . . £ : :  
 Donkey Boiler Fee . . . . £ 2 : 2 : : When received, 4.6.02  
 Travelling Expenses (if any) £ : : 27.6.02

H Gardner Smith  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

FRI. 13 JUN 1902

Assigned



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