

## REPORT ON MACHINERY.

Port of *Glasgow*

Received at London Office JUL 30 AUG 1884

No. in Survey held at *Port Glasgow* Date, first Survey *28<sup>th</sup> July* Last Survey *2<sup>nd</sup> Aug<sup>st</sup> 1884*  
 Reg. Book. on the *Screw Steamer Emerald* (Number of Visits *2*)

Master Built at *Port Glasgow* By whom built *A. Rodger & Co.* Tons } Gross  
 Engines made at *Glasgow* By whom made *A. Rodger & Co.* when made *1904* } Net  
 Boilers made at *Glasgow* By whom made when made *1904*  
 Registered Horse Power Owners *H. Robertson* Port belonging to *Glasgow*  
 Nom. Horse Power as per Section 28 Is Electric Light fitted

## ENGINES, &amp;c.—Description of Engines

Description of Engines			No. of Cylinders	No. of Cranks
Diameter of Cylinders	Length of Stroke	Revolutions per minute		Diameter of Screw shaft as per rule as fitted
Diameter of Tunnel shaft as per rule as fitted	Diameter of Crank shaft journals	Diameter of Crank pin		Size of Crank webs
Diameter of screw	Pitch of screw	No. of blades	State whether moveable	Total surface
No. of Feed pumps	Diameter of ditto	Stroke	Can one be overhauled while the other is at work	
No. of Bilge pumps	Diameter of ditto	Stroke	Can one be overhauled while the other is at work	
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	<i>Yes</i>	Are they Valves or Cocks	<i>Both</i>	
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 <i>Yes</i>			
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	worked from			

## BOILERS, &amp;c.—

(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	Can each boiler be worked separately	Area of fire grate in each boiler	No. and Description of safety valves to each boiler
each boiler	Area of each valve	Pressure to which they are adjusted	Are they fitted with easing gear
Smallest distance between boilers or uptakes and bunkers or woodwork	Mean diameter of boilers		
Length	Material of shell plates	Thickness	Description of riveting: circum. 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	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	Thickness of plates	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
Material	Thickness	Pitch of stays	How are stays secured
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
Diameter of tubes	Pitch of tubes	Material of tube plates	Thickness: Front Back
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
holes	Pitch of rivets	Working pressure of shell by rules	Diameter of flue
If stiffened with rings	Distance between rings	Working pressure by rules	End plates: Thickness
Working pressure of end plates	Area of safety valves to superheater	Are they fitted with easing gear	



**DONKEY BOILER—** 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 boiler can enter the donkey boiler \_\_\_\_\_

Diameter of donkey boiler \_\_\_\_\_ Length \_\_\_\_\_ Material of shell plates \_\_\_\_\_ Thickness \_\_\_\_\_

Description of riveting long. seams \_\_\_\_\_ Diameter 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 { During progress of work in shops - 1904 July 28. Aug 2.  
of Survey { During erection on board vessel -  
while building { Total No. of visits 2.

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

**ENGINES**—Length of stern bush \_\_\_\_\_ Diameter of crank shaft journals <sup>as per rule</sup> \_\_\_\_\_ Diameter of thrust shaft under collars <sup>as fitted</sup> \_\_\_\_\_

**BOILERS**—Range of tensile strength \_\_\_\_\_ Are they welded or flanged \_\_\_\_\_ **DONKEY BOILERS**—No. \_\_\_\_\_ Range of tensile strength \_\_\_\_\_

Is the approved plan of main boiler forwarded herewith \_\_\_\_\_ Is the approved plan of donkey boiler forwarded herewith \_\_\_\_\_

The propeller, stern tube and Bush and all the fastenings of sea cocks and valves were examined before launching and found in good condition.

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

Amount of Entry Fee..	£	:	:	When applied for,
Special .. .. .	£	:	:	18
Donkey Boiler Fee .. .. .	£	:	:	When received,
Travelling Expenses (if any) £	:	:	:	18

*Wm R. Austin*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute Glasgow 15 AUG 1904

Assigned Deferred for Completion

return in Glasgow.