

## REPORT ON MACHINERY.

No. 14223.

Port of *Greenock*Received at London Office *10-3 4 APR 1905*Survey held at *Greenock*Date, first Survey *20th June 1904* Last Survey *24th March 1905*

Book.

Name of the *Steel S.S. "River Clyde" (Russell & Co. No 537)*(Number of Visits *100*)Built at *Port Glasgow*By whom built *Russell & Co.*Tons { Gross *3900*  
Net *2500*When built *1905*Names made at *Greenock*By whom made *J. G. Kincaid & Co.*when made *1905*Names made at *Do.*By whom made *Scott & Co.*when made *1905*

Registered Horse Power

Owners *The S.S. "River Clyde" Co. (Ormond & Co. & Co.)* Port belonging to *Glasgow*Horse Power as per Section 28 *350*Is Refrigerating Machinery fitted for cargo purposes *No* Is Electric Light fitted *No*MACHINERY, &c.—Description of Engines *Triple Expansion*No. of Cylinders *3* No. of Cranks *3*Diameter of Cylinders *25" - 41" + 67"* Length of Stroke *48"* Revs. per minute *78* Dia. of Screw shaft *as per rule 13.56* Material of screw shaft *Iron*Is the screw shaft fitted with a continuous liner the whole length of the stern tube *yes* Is the after end of the liner made water tightIs the propeller boss *yes* If the liner is in more than one length are the joints burned *✓* If the liner does not fit tightly at the partWhen the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive *✓* If twoShafts are fitted, is the shaft lapped or protected between the liners *✓* Length of stern bush *60"*Dia. of Tunnel shaft *as per rule 12.68* Dia. of Crank shaft journals *as per rule 13.32* Dia. of Crank pin *13 1/2* Size of Crank webs *20 x 8 3/4* Dia. of thrust shaft underShafts *13 1/2* Dia. of screw *17-6* Pitch of screw *17-3* No. of blades *4* State whether moveable *No* Total surface *95 sq. ft.*No. of Feed pumps *1* Diameter of ditto *3 1/2* Stroke *30"* Can one be overhauled while the other is at work *yes*No. of Bilge pumps *2* Diameter of ditto *4* Stroke *30"* Can one be overhauled while the other is at work *yes*No. of Donkey Engines *Two* Sizes of Pumps *12 x 10 + 6 in. Duplex 4 1/2 x 8* No. and size of Suctions connected to both Bilge and Donkey pumpsEngine Room *Four - 3 1/2 bore* In Holds, &c. *No 1 hold 2-3 1/2, No 2 hold 2-3 1/2, No 4 hold**1-3 1/2, No 5 hold 2-3 1/2, Tunnel well 1-2 1/2.*No. of bilge injections *1* sizes *6"* Connected to condenser, or to circulating pump *Cir. p.* Is a separate donkey suction fitted in Engine room & size *yes - 3 1/2*Are all the bilge suction pipes fitted with roses *yes* Are the roses in Engine room always accessible *yes* Are the sluices on Engine room bulkheads always accessible *✓*Are all connections with the sea direct on the skin of the ship *yes* Are they Valves or Cocks *both*Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates *yes* Are the discharge pipes above or below the deep water line *above*Are they each fitted with a discharge valve always accessible on the plating of the vessel *yes* Are the blow off cocks fitted with a spigot and brass covering plate *yes*How are they protected *wood casing*Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times *yes*Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges *yes*When were stern tube, propeller, screw shaft, and all connections examined in dry dock *Before launching* Is the screw shaft tunnel watertight *yes*Is it fitted with a watertight door *yes* worked from *upper deck.*

Is forced draft fitted

MACHINERY, &amp;c.—(Letter for record) Total Heating Surface of Boilers

Working Pressure Tested by hydraulic pressure to

Can each boiler be worked separately *yes* Area of fire grate in each boiler No. and Description of safety valves toArea of each valve *8.29 sq. ft.* Pressure to which they are adjusted *182 lb.* Are they fitted with easing gear *yes*Greatest distance between boilers or uptakes and bunkers or woodwork *15'* Mean dia. of boilers Length Material of shell plates

Thickness Range of tensile strength Are they 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

Percentages of strength of longitudinal joint Working pressure of shell by rules Size of manhole in shell

No. and Description of Furnaces in each boiler Material Outside diameter

Length of plain part 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

Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness

Are they 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



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

Made at Glasgow By whom made Barelay, Curle & Co. When made \_\_\_\_\_ Where fixed on deck

Working pressure \_\_\_\_\_ tested by hydraulic pressure to \_\_\_\_\_ No. of Certificate \_\_\_\_\_ Fire grate area \_\_\_\_\_ Description of safety valves Direct spring

No. of safety valves Two Area of each 5.94 <sup>sq</sup> Pressure to which they are adjusted 80 lbs If fitted with easing gear Yes If steam from main boilers can enter the donkey boiler No

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:— 1 Propeller, 3 cylr. escape valves + springs, 12 shaft coupling bolts + nuts, 2 con. rod, 2 piston rod, 2 main bearing, 6 holding down, 6 junk ring + 6 cylr. cover bolts + nuts, 2 feed + 2 bilge pump valves. 1 feed escape valve + spring. 1/2 set main fire bars. 12 boiler + 50 condenser tubes. 120 condenser ferrules. 1 set of safety valve springs.

*The foregoing is a correct description,*

John G. Knicaid & Co. Manufacturers.

Dates of Survey while building	During progress of work in shops -	1904 Jan 20, 29, July 4, 5, Oct 25, 27, 28, 31, Nov 2, 3, 4, 7, 8, 9, 10, 12, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25, 28, 29, Dec 1, 2, 5, 6, 7, 8, 9, 12, 13, 14, 15, 16, 19, 20, 21, 22, 23, 26, 27, 28, 29, 30, 1905 Jan 5, 6, 7, 9, 10, 11, 12, 13, 14, 16, 17, 18, 19, 20, 23, 24, 25, 26, 27, 28, 30, Feb 6, 7, 8, 9, 10, 11, 13, 14, 15, 18, 20, 21, 22, 24, 25, 27, 28, Mar 1, 2, 3, 6, 7, 8, 9, 10, 21, 23
	During erection on board vessel -	
	Total No. of visits	100.
	Is the approved plan of main boiler forwarded herewith	Yes

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“ ” “ donkey ” ” ” *yes*

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

**General Remarks** (State quality of workmanship, opinions as to class, &c. Workmanship and material good.)  
The machinery was built under special survey. The main steam pipes were tested to 360 lbs. hyd. press. & found tight. The Engines and Boilers are efficiently fitted on board and, on a full steam trial, were found to work satisfactorily. The machinery is now in safe working condition and eligible, in my opinion, to have the notification of **+L.M.C.3.05** entered in the Register Book.

Marks on main boilers. No 668 Lloyd's test. 360 lbs. 16/1/05. W.R.A.

It is submitted that  
this vessel is eligible for  
THE RECORD. 4 LMC 3-05

The amount of Entry Fee..	£ 3 : - : .	} When applied for, 29/3/1905
Special .. .. .	£ 37 10 : .	
Donkey Boiler Fee .. .. .	£ . : . : .	} When received, 31/3/1905
Travelling Expenses (if any) £	. : . : .	

R. Elliott.  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

## Committee's Minute

Glasgow 3 - APR 1905

### Assigned

+ L.M.C. 3.05

7 CERTIFICATE  
WRITTEN 4/4/05

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Lloyd's Register  
Foundation

Certificate (if required) to be sent to \_\_\_\_\_  
by the space for Committee's Minute.)

in the space for *Committees Minutes.*)

... of ... Ink.]