

REPORT ON MACHINERY.

Port of *Greenock*WFA. 28 April 1894
Received at London Office 18No. in Survey held at *Greenock & Campbeltown* Date, first Survey *Oct. 17. 1893* Last Survey *17th April 1894*
Reg. Book. Supplement22 on the *Screw Steamer "Guillemot."*(Number of Visits *77*)Gross *1770.19*
Tons Net *1146.83*Master *Harding* Built at *Campbeltown* By whom built *Campbeltown S.B. Coy.*When built *1894*Engines made at *Greenock* By whom made *Rankin & Blackmore*when made *1894*Boilers made at *do* By whom made *do*when made *1894*Registered Horse Power *170*Owners *General Steam Navigation Coy.*Port belonging to *London*Nom. Horse Power as per Section 28 *165*

ENGINES, &c.— Description of Engines *Inverted Direct Acting Triple Expansion* No. of Cylinders *Three*
 Diameter of Cylinders *20. 32 & 53* Length of Stroke *36* Revolutions per minute *74* Diameter of Screw shaft *as per rule 2.57*
 Diameter of Tunnel shaft *as per rule 4.24* Diameter of Crank shaft journals *10* Diameter of Crank pins *10* Size of Crank webs *13 1/4 x 7 1/4*
 Diameter of screw *13.3* Pitch of screw *14.0* No. of blades *4* State whether moveable *no* Total surface *60 square feet*
 No. of Feed pumps *Two* Diameter of ditto *3* Stroke *22* Can one be overhauled while the other is at work *yes*
 No. of Bilge pumps *Two* Diameter of ditto *4* Stroke *22* Can one be overhauled while the other is at work *yes*
 No. of Donkey Engines *Two* Sizes of Pumps *12 x 10 & 4 1/2 x 9 stroke* No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room *one 2 1/2 & two 2 1/2* In Holds, &c. *three 2 1/2 & one in well of tunnel floor.*

No. of bilge injections *one* sizes *5 3/8* Connected to condenser, or to circulating pump *no* Is a separate donkey suction fitted in Engine room & size *yes. 2 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 *yes*
 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 *awash*
 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*
 What pipes are carried through the bunkers *None* How are they protected *—*
 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 *on ship before launching* Is the screw shaft tunnel watertight *yes*
 Is it fitted with a watertight door *yes* worked from *Engine room top platform.*

BOILERS, &c.— (Letter for record *S*) Total Heating Surface of Boilers *2480 square feet.*
 No. and Description of Boilers *Two Round Horizontal Multitubular* Working Pressure *165 lbs* Tested by hydraulic pressure to *330 lbs*
 Date of test *8.3.94* Can each boiler be worked separately *yes* Area of fire grate in each boiler *44 sq ft* No. and Description of safety valves to
 each boiler *Two* Area of each valve *4.91 sq in* Pressure to which they are adjusted *170 lbs* Are they fitted
 with easing gear *yes* Smallest distance between boilers or uptakes and bunkers or woodwork *11"* Mean diameter of boilers *12.7"*
 Length *10.0* Material of shell plates *Steel* Thickness *1 3/32* Description of riveting: circum. seams *Lap double* long. seams *Double treble*
 Diameter of rivet holes in long. seams *1 5/32* Pitch of rivets *8 1/4 & 4 1/8* Lap of plates or width of butt straps *17 1/2 straps*
 Per centages of strength of longitudinal joint *91* Working pressure of shell by rules *165 lbs* Size of manhole in shell *16 x 12*
 Size of compensating ring *30 x 26 x 1 3/32* No. and Description of Furnaces in each boiler *Two ribbed* Material *Steel* Outside diameter *49 1/8*
 Length of plain part *top 2 1/2 between ribs* Thickness of plates *crown 7/16* Description of longitudinal joint *welded* No. of strengthening rings *1 in bottom*
 bottom *1 1/2* Working pressure of furnace by the rules *165 lbs* Combustion chamber plates: Material *Steel* Thickness: Sides *9/16* Back *9/16* Top *3/32* Bottom *1/16*
 Pitch of stays to ditto: Sides *7 3/4 x 7 5/8* Back *7 3/4 x 7 3/8* Top *8 1/2 x 7 3/4* If stays are fitted with nuts or riveted heads *nuts* Working pressure by rules *168 lbs*
 Material of stays *Steel* Diameter at smallest part *1 1/4 & 1 3/8* Area supported by each stay *65 1/2, 59 1/4, 79* Working pressure by rules *165 lbs* End plates in steam space:
 Material *Steel* Thickness *1 5/16* Pitch of stays *16 3/4 x 16 3/4* How are stays secured *Double nuts* Working pressure by rules *176 lbs* Material of stays *Steel*
 Diameter at smallest part *2 1/4* Area supported by each stay *280 sq in* Working pressure by rules *167 lbs* Material of Front plates at bottom *Steel*
 Thickness *1 3/16* Material of Lower back plate *Steel* Thickness *1 1/2* Greatest pitch of stays *13"* Working pressure of plate by rules *204 lbs*
 Diameter of tubes *3 1/4* Pitch of tubes *4 1/16 x 4 3/8* Material of tube plates *Steel* Thickness: Front *3/4* Back *3/4* Mean pitch of stays *11"*
 Pitch across wide water spaces *14"* Working pressures by rules *186 lbs* Girders to Chamber tops: Material *Steel* Depth and
 thickness of girder at centre *8 3/8 x 3 1/2* length as per rule *32* Distance apart *8 1/2* Number and pitch of Stays in each *Three 7 3/4*
 Working pressure by rules *179 lbs* 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 *—*

DONKEY BOILER— Description *See Stockton Surveyors Report*

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 _____

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:— *2 top & 2 bottom and bolts & nuts for connecting rods. 2 Main bearing bolts. 1 set Coupling bolts. 2 bolts & 2 studs for eccentric straps. 2 Valve rod bolts. 2 Eccentric rod top and bolts. 1 set of valves & seats for bilge & feed pumps. 1 set do for air pump. 1 set do for circulating pump. 12 tubes & 20 packing glands for condenser tubes.*

The foregoing is a correct description,
R. McKim & Blauwman Manufacturer.

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

*These Engines and Boilers have been specially surveyed during construction quality of workmanship good. Shafts examined when being turned and found apparently free from defects. Main steam pipes tested by hydraulic pressure to 330 lbs per sq. inch. Tests satisfactory. The Machinery and Boilers are satisfactory fitted on board and Engines tested under full steam. They are now in good order and safe working condition and are in my opinion eligible to be noted in the Register Book. **LMC. 4. 94.***

Spare gear Continued.

8 tubes for Main Boilers. 1 set of escape valve springs for Cylinders. 1 Safety valve spring for Main Boilers. 1 spring for feed pump relief valve. 10 junk ring pins 1/2 set fire bars for Main & Donkey Boilers. A quantity of bolts nuts & iron assort.

It is submitted that this vessel is eligible for THE RECORD

LMC 4. 94

APR 25

25-4-94

MACHINERY CERTIFICATE WRITTEN.

Certificate (if required) to be sent to _____

The amount of Entry Fee.. £ *2* : - : When applied for, *18 April 1894*
 Special £ *24* : *15* : :
 Donkey Boiler Fee £ : : :
 Travelling Expenses (if any) £ *1* : *2* : : *19 April 1894*

F. Roberts
A. L. Heron
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.
Greenock District.

Committee's Minute

Assigned

FRI 27 APR 1894

+ LMC 4. 94



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