

REPORT ON MACHINERY.

Port of *Greenock*

THUR, 3 MAR 1898

Received at London Office 18

No. in Survey held at *Greenock & Port Glasgow* Date, first Survey *25 Nov. 1896* Last Survey *25 Feb. 1898*
Reg. Book. *Sept* (Number of Visits *157*)37 on the *Screw Steamer "Boveric"*Tons { Gross *3987*
Net *2578*Master *A. Shotton* Built at *Port Glasgow* By whom built *Russell & Co.*When built *1898*Engines made at *Greenock* By whom made *Rankin & Blackmore* when made *1897 & 8*Boilers made at *do* By whom made *do do do* when made *1897 & 8*Registered Horse Power *346* Owners *Steam Ship Boveric Coy. (Lim^d)* Port belonging to *Glasgow*Nom. Horse Power as per Section 28 *346* Is Electric Light fitted *yes*ENGINES, &c.—Description of Engines *Inverted direct acting triple exp^r* No. of Cylinders *Three* No. of Cranks *Three*Diameter of Cylinders *25" 41" 66"* Length of Stroke *45"* Revolutions per minute *70* Diameter of Screw shaft *as per rule 12 1/4"*
*as fitted 12 1/2"*Diameter of Tunnel shaft *as per rule 11 1/2"* Diameter of Crank shaft journals *12 1/4"* Diameter of Crank pins *12 1/4"* Size of Crank webs *16 1/4" x 8 1/2"*
*as fitted 11 1/2"*Diameter of screw *18" 0"* Pitch of screw *16" 9"* No. of blades *Four* State whether moveable *no* Total surface *94 sq ft*No. of Feed pumps *Two* Diameter of ditto *3 1/2"* Stroke *22"* Can one be overhauled while the other is at work *yes*No. of Bilge pumps *Two* Diameter of ditto *4 1/2"* Stroke *22"* Can one be overhauled while the other is at work *yes*No. of Donkey Engines *Two* Sizes of Pumps *12" x 10" & 6" x 6" duplex* No. and size of Suctions connected to both Bilge and Donkey pumpsIn Engine Room *Three 3 1/2"* In Holds, &c. *Eight 3 1/2" in holds & one 2 1/2" in tunnel well.*No. of bilge injections *One* sizes *4 1/2" & 6"* Connected to condenser, or to circulating pump *yes* 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 *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 *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.*What pipes are carried through the bunkers *Bilge pipes* 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 *on ship before* 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 *4804 sq ft* Is forced draft fitted *yes.*No. and Description of Boilers *Two Cylindrical Multitubular* Working Pressure *160 lbs* Tested by hydraulic pressure to *320.*Date of test *22.12.97* Can each boiler be worked separately *yes* Area of fire grate in each boiler *56 sq ft* No. and Description of safety valves toeach boiler *Two direct spring* Area of each valve *9.62 sq in* Pressure to which they are adjusted *165 lbs* Are they fittedwith easing gear *yes.* Smallest distance between boilers or uptakes and bunkers or woodwork *16"* Mean diameter of boilers *15" 3."*Length *11" 6"* Material of shell plates *Steel* Thickness *1 1/32"* Description of riveting: circum. seams *Lap double* long. seams *9 B. straps triple*Diameter of rivet holes in long. seams *1 1/4"* Pitch of rivets *8 3/4" & 4 3/8"* Lap of plates or width of butt straps *18 1/4" straps.*Per centages of strength of longitudinal joint *ribs 85.6* Working pressure of shell by rules *163 lbs* Size of manhole in shell *16" x 12"*
*plate 85.7.*Size of compensating ring *30" x 26" x 1 1/4"* No. and Description of Furnaces in each boiler *Three suspended* Material *Steel* Outside diameter *49 1/4"*Length of plain part *top 2' 11"* Thickness of plates *bottom 3' 32"* Description of longitudinal joint *welded.* No. of strengthening rings *—*Working pressure of furnace by the rules *166 lbs* Combustion chamber plates: Material *Steel* Thickness: Sides *9/16"* Back *9/16"* Top *9/16"* Bottom *3/4"*Pitch of stays to ditto: Sides *8 1/4" x 7 1/4"* Back *8" x 7 1/8"* Top *8 1/4" x 8 1/4"* If stays are fitted with nuts or riveted heads *Nuts* Working pressure by rules *160 to 170 lbs*Material of stays *Steel* Diameter at smallest part *1 1/2"* Area supported by each stay *61 to 89 sq in* Working pressure by rules *160 to 170 lbs* End plates in steam space:Material *Steel* Thickness *7/8" with* Pitch of stays *16 1/4" x 15 1/2"* How are stays secured *double nuts* Working pressure by rules *162 lbs* Material of stays *Steel*Diameter at smallest part *2 1/2"* Area supported by each stay *252 sq in* Working pressure by rules *167 lbs* Material of Front plates at bottom *Steel*Thickness *3/4"* Material of Lower back plate *Steel* Thickness *3/4" & 1/2"* Greatest pitch of stays *12 1/2" to 13"* Working pressure of plate by rules *169 to 204 lbs*Diameter of tubes *2 1/2"* Pitch of tubes *3 3/4" x 3 3/8"* Material of tube plates *Steel* Thickness: Front *25/32" & 1/2"* Back *3/4"* Mean pitch of stays *7.3 & 11"*Pitch across wide water spaces *13"* Working pressures by rules *225 lbs* Girders to Chamber tops: Material *Steel* Depth andthickness of girder at centre *10" x 5" double* Length as per rule *35"* Distance apart *8 1/4"* Number and pitch of Stays in each *Three 8 1/4"*Working pressure by rules *173 lbs* Superheater or Steam chest; how connected to boiler *—* Can the superheater be shut off and the boiler workedseparately *—* Diameter *—* Length *—* Thickness of shell plates *—* Material *—* Description of longitudinal joint *—* Diam. of rivetholes *—* 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 *—*

Report also sent on the Hull of the ship?

[1076-5000-24/28-100]

Lloyd's Register
Foundation

GRK 340-0115

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	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	Plates	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. 1 screw shaft 3 Cylinder escape valves & springs. 1 do for feed pump. 12 Coupling bolts & nuts. 2 tops & 2 bottom end do. 2 do for main bearings. 6 do holding down. 6 do for Cylinder Covers. 6 do for Valve Chest Covers. 6 do for junk rings. 2 feed & 2 bilge pump valves. 2 feed check valves. 12 tubes for Mr. D. Peilien

The foregoing is a correct description,

The foregoing is a correct description,
Ransom B. Adams Manufacturer.

Dates of Survey while building	During progress of work in shops - -	1896 Jan 25, 27, Feb 2, 10, 12, 23, 25, 29, (1897) Jan 4, 8, 15, 28, 29, Feb 1, 4, 6, 9, 10, 12, 16, 18, 19, 23, 26, 27, March 2, 4, 12, 16, 18, 22, 24, 26, 27.
	During erection on board vessel - -	April 1, 8, 13, 16, 19, 21, 24, 27, 30. May 3, 4, 7, 10, 15, 17, 19, 22, 24, 26, 31. June 3, 7, 9, 11, 15, 17, 19, July 12, 14, 16, 19, 21, 24, 27, 29. Aug 2, 4, 7, 12, 13, 17, 23, 26, 28, 30, 31. Sep 2, 8, 14, 17, 20, 22, 24, 28, 30. Oct 1, 2, 5, 7, 11, 12, 14, 15, 22, 28, 28, 30. Nov 2, 4, 8, 12, 16, 18, 20, 22, 23, 24, 26, 29, 30. Dec 4, 2, 6, 8, 13, 15, 17, 21, 22, 23, 27, 28, 29, 30, 31. 1898 Jan 4, 5, 10, 12, 13, 14, 17, 18, 19, 20, 22, 25, 26, 27, 29, 31. Feb 1, 2, 8, 10, 14, 15, 16, 17, 18.
	Total No. of visits	154.
		21, 22, 23, 24, 25.

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 sound. Main steam pipes tested by hydraulic pressure to 320 lbs per sq. in. tests satisfactory. The Engines and Boilers are satisfactorily fitted in vessel and have been tested under full steam. They are now in good order and safe working condition, and are in my opinion eligible to be noted in Register Book. ✠ LMC, 2, 98.

This vessel's main Boilers are fitted with forced draught. Howard's system.

Spaie q'cai Continued

12 tubes & 250 packing ferrules for surface condenser. 1 set feed Donkey pump valves and seats. 2 Donkey boiler feed check valves. 1 set safety valve springs & a quantity of bolts nuts & iron assorted.

For You Longing,

1 Eccentric strap & rod, 1 Connecting rod complete, 1 Piston 1 Valve spindle
1 Main bearing cone.

It is submitted that
this vessel is eligible for
THE RECORD. + L. H.

this vessel is eligible for
THE RECORD. + L. M. C. 298. F. D. Elec. Light

The amount of Entry Fee..	£ 3 : 0 :	When applied for,
Special	£ 37 : 6 :	24.2.18.98
Donkey Boiler Fee	£ " : " :	When received,
Travelling Expenses (if any) £	" : " :	28.2.18.98

Committee's Minute

FRI. 4 MAR 1898

Assigned

* 2mc 2, 98 7D

Wear light

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

Greenock District.