

REPORT ON MACHINERY.

Port of *Glasgow*

Received at London Office **THUR MAR 22 1900**

No. in Survey held at *Glasgow*
Reg. Book.

Date, first Survey *14 March '99* Last Survey *14 March 1900*
(Number of Visits *2*)

on the *S.S. "Glasgow"*

Tons { Gross *647.64*
Net *195.08*
When built *1900*

Master *John Hagan* Built at *Groon* By whom built *Ailsa P.B. Co*

Engines made at *Glasgow* By whom made *McKen & Baxter* when made *1900*

Boilers made at *Glasgow* By whom made *D.W. Henderson* when made *1900*

Registered Horse Power _____ Owners *Robert Simpson* Port belonging to *Whithorn*

Nom. Horse Power as per Section 28 *114* Is Refrigerating Machinery fitted *no* Is Electric Light fitted *no*

ENGINES, &c.—Description of Engines *Compound* No. of Cylinders *two* No. of Cranks *two*

Dia. of Cylinders *21" 47"* Length of Stroke *33* Revs. per minute *82* Dia. of Screw shaft as per rule *9.25-47* as fitted *10"* Lgth. of stern bush *40"*

Dia. of Tunnel shaft as per rule *8.75-157* as fitted *none* Dia. of Crank shaft journals as per rule *9.25-02* as fitted *9.4* Dia. of Crank pin *9.4* Size of Crank webs *14x5.5* Dia. of thrust shaft under collars *9.4* Dia. of screw *11-0* Pitch of screw *15-6* No. of blades *4* State whether moveable *no* Total surface *40 sq ft*

No. of Feed pumps *two* Diameter of ditto *2.5"* Stroke *16.5"* Can one be overhauled while the other is at work *yes*

No. of Bilge pumps *two* Diameter of ditto *3"* Stroke *16.5"* Can one be overhauled while the other is at work *yes*

No. of Donkey Engines *two* Sizes of Pumps *6"x4"x6", 6"x6"x6"* No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room *one 2.5"* In Holds, &c. *two 2"*

No. of bilge injections *one* sizes *4"* Connected to condenser, or to circulating pump *pumps a separate donkey suction fitted in Engine room & size yes 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 *none*

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 *ford bilge tank suction* How are they protected *iron 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 launch* the screw shaft tunnel watertight *none*

Is it fitted with a watertight door *—* worked from *—*

BOILERS, &c.— (Letter for record *S*) Total Heating Surface of Boilers *1730 sq ft* Is forced draft fitted *no*

No. and Description of Boilers *One Single Ended* Working Pressure *130 lb* Tested by hydraulic pressure to *260 lb*

Date of test *27/1/00* Can each boiler be worked separately *✓* Area of fire grate in each boiler *63 sq ft* No. and Description of safety valves to each boiler *One Double Spring* Area of each valve *8.3 sq ft* Pressure to which they are adjusted *135 lb* Are they fitted with easing gear *yes*

Smallest distance between boilers or uptakes and bunkers or woodwork *6-5"* Mean dia. of boilers *14-8 3/32"* Length *10-6"* Material of shell plates *Steel*

Thickness *29/32"* Range of tensile strength *28/32* Are they welded or flanged *Neither* Descrip. of riveting: cir. seams *Double R Lap* long. seams *Double R Butt*

Diameter of rivet holes in long. seams *1"* Pitch of rivets *7/4"* Lap of plates or width of butt straps *15" 27/32" inside 7/8" outside*

Percentage of strength of longitudinal joint rivets *88.9* plate *86.2* Working pressure of shell by rules *132 lb* Size of manhole in shell *16"x12"*

Size of compensating ring *30"x24"* No. and Description of Furnaces in each boiler *3, Plain* Material *Steel* Outside diameter *43 5/16"*

Length of plain part top *6-7"* bottom *9-4"* Thickness of plates crown *21/32"* Description of longitudinal joint *Welded* No. of strengthening rings *None*

Working pressure of furnace by the rules *141* Combustion chamber plates: Material *Steel* Thickness: Sides *5/8"* Back *19/32"* Top *5/8"* Bottom *1"*

Pitch of stays to ditto: Sides *10x10 1/2"* Back *9 7/8 x 9"* Top *10 1/2 x 7 1/2"* If stays are fitted with nuts or riveted heads *Nuts inside* Working pressure by rules *131*

Material of stay *Steel* Diameter at smallest part *1.41 106 0"* Area supported by each stay *87 150 0"* Working pressure by rules *130 lb* End plates in steam space: Material *Steel* Thickness *15/16"* Pitch of stays *21x14 1/4"* How are stays secured *Double nuts* Working pressure by rules *135 lb* Material of stays *Steel*

Diameter at smallest part *4.30"* Area supported by each stay *2990"* Working pressure by rules *143* Material of Front plates at bottom *Steel*

Thickness *13/16"* Material of Lower back plate *Steel* Thickness *15/16"* Greatest pitch of stays *14 1/4"* Working pressure of plate by rules *214*

Diameter of tubes *3 1/2"* Pitch of tubes *4 3/4"* Material of tube plates *Steel* Thickness: Front *27/32"* Back *23/32"* Mean pitch of stays *11 7/8"*

Pitch across wide water spaces *14 1/2"* Working pressures by rules *130 lb* Girders to Chamber tops: Material *Steel* Depth and thickness of girder at centre *7 7/8 x 1 1/2"* Length as per rule *31 1/16"* Distance apart *7 1/2"* Number and pitch of Stays in each *two, 10 1/2"*

Working pressure by rules *149 lb* Superheater or Steam chest; how connected to boiler *None*. 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 _____

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. 1 Description *Cumula Vertical Cochran's Patent*
 Made at *Burkhead* By whom made *Cochran & Co* When made *23/10/99* Where fixed *in stowhold*
 Working pressure *85 lbs* tested by hydraulic pressure to *170* No. of Certificate *1602* Fire grate area *12 1/2"* Description of safety valves *drum spring*
 No. of safety valves *one* Area of each *4.9"* Pressure to which they are adjusted *85 lbs* If fitted with easing gear *yes* If steam from main boiler enter the donkey boiler *no* Dia. of donkey boiler *5-0* Length *9-6* Material of shell plates *steel* Thickness *13/32* Range of strength — Descrip. of riveting long. seams *D.R. Lap* Dia. of rivet holes *13/16* Whether punched or drilled *drilled* Pitch of rivets *2-6"*
 Lap of plating *4* Per centage of strength of joint Rivets *94.7* Plates *67.5* Thickness of shell crown plates *3/8* Radius of do *2-6"* No. of Stays to Dia. of stays. *4* Diameter of furnace Top *4-1"* Bottom *4-1"* Length of furnace *16-0"* Thickness of furnace plates *15/32*
 joint *single pitch* Thickness of furnace crown plates *15/32* Stayed by *hemispherical* Working pressure of shell by rules *114 lbs* Diameter of uptake *13 1/2"* Thickness of uptake plates *1/2"* Thickness of water tubes

SPARE GEAR. State the articles supplied:—

The foregoing is a correct description,

Manufacturer.

Wm. Rankin

Dates of Survey while building
 During progress of work in shops— 1899: Mar. 14. May. 10. 12. 24. 25. 26. June. 9. 16. 26. 29. 30. July. 4. 11. 12. 24. Aug. 1. 2. 9. 10. 14. 15. 18.
 During erection on board vessel — 29. Sep. 5. 13. 18. 19. 26. 27. Oct. 4. 9. 16. 17. 18. 21. 23. 26. 27. Nov. 3. 7. 8. 10. 14. Dec. 4. 13. 19. 27. 1900: 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31.
 Total No. of visits *62* 16. 18. 23. 27. Feb. 13. 26. 27. Mar. 5. 9. 13. 17. Is the approved plan of main boiler forwarded herewith *Yes*
 " " " donkey " " " *No*

General Remarks (State quality of workmanship, opinions as to class, &c.)
*These engines and boilers have been built under special survey, the materials and workmanship are of good description, they have been well fitted on board and tried under steam.
 In our opinion this machinery is eligible to have notification of L.M.C. 3.00.*

It is submitted that this vessel is eligible for THE RECORD. L.M.C. 3.00.

C.M.
22.3.00
22.3.00

Glasgow

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

The amount of Entry Fee...	£ 2 : - : -	When applied for.
Special	£ 17 : 2 : -	
Donkey Boiler Fee	£ . : 7 : -	When received.
Travelling Expenses (if any) £	. : . : -	

A. McLeod & Co. Surveyors
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute **FRI. 23 MAR 1900**

Assigned *+ L.M.C. 3.00*

