

REPORT ON MACHINERY.

Port of Glasgow

Received at London Office WED. 30 NOV 1898

No. in Survey held at Glasgow Date, first Survey 7 March Last Survey 24 Nov 1898
Reg. Book. (Number of Visits 22)

on the s.s. "BALMARINO" Tons { Gross 461.36
Net 89.47
When built 1898

Master John Robinson Built at Groon By whom built Aulsa S. B. Co
Engines made at Glasgow By whom made Muir & Houston when made 1898
Boilers made at Glasgow By whom made Muir & Houston when made 1898
Registered Horse Power _____ Owners John Kelly Esq Port belonging to Belfast
Nom. Horse Power as per Section 28 85 Is Electric Light fitted No.

ENGINES, &c. — Description of Engines Compound screw No. of Cylinders 2 No. of Cranks 2
Diameter of Cylinders 21 x 42" Length of Stroke 30 Revolutions per minute 110 Diameter of Screw shaft as per rule 8.64
Diameter of Tunnel shaft as per rule none Diameter of Crank shaft journals 8 3/8" Diameter of Crank pin 8 3/8" Size of Crank webs as fitted 8 3/4"
Diameter of screw 19.6" Pitch of screw 12.6" No. of blades 4 State whether moveable yes Total surface 28 sq. ft.
No. of Feed pumps two Diameter of ditto 2 1/2" Stroke 15" Can one be overhauled while the other is at work yes
No. of Bilge pumps two Diameter of ditto 3" Stroke 15" Can one be overhauled while the other is at work yes
No. of Donkey Engines two Sizes of Pumps { Ballast 7 x 7 x 10" No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room two 2 1/2" { Feed 7 x 4 1/4 x 10" In Holds, &c. Fore hold, two 2 1/2"

No. of bilge injections 1 sizes 3" Connected to condenser, or to circulating pump pump 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 valves & cocks
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 yes
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 yes
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 Is the screw shaft tunnel watertight none
Is it fitted with a watertight door yes worked from yes

BOILERS, &c. — (Letter for record 15) Total Heating Surface of Boilers 1380 sq. ft. Is forced draft fitted no
No. and Description of Boilers one single ended Working Pressure 115 lbs Tested by hydraulic pressure to 230 lbs
Date of test 22/10/98 Can each boiler be worked separately yes Area of fire grate in each boiler 60 sq. ft. No. and Description of safety valves to
each boiler 2 Patent Spring 3 1/2" dia Area of each valve 9.62" Pressure to which they are adjusted 120 lbs Are they fitted
with easing gear yes Smallest distance between boilers or uptakes and bunkers or woodwork 11.3" Mean diameter of boilers 12.6"
Length 10.0 Material of shell plates steel Thickness 2 1/2" Description of riveting: circum. seams double long. seams treble (butt)
Diameter of rivet holes in long. seams 1 1/8" Pitch of rivets 7/2" Lap of plates or width of butt straps 1.5"
Per centages of strength of longitudinal joint { rivets 100 Working pressure of shell by rules 120 lbs Size of manhole in shell 16 x 12
plate 85
Size of compensating ring McNeill's No. and Description of Furnaces in each boiler 3 Plain Material steel Outside diameter 42"
Length of plain part { top 5.11 Thickness of plates { crown 1/16" Description of longitudinal joint welded No. of strengthening rings none
bottom 8.9 1/2 bottom 1/16"
Working pressure of furnace by the rules 115 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 x 9" Back 9 x 9" Top 7 1/2 x 8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 135 lbs
Material of stays steel Diameter at smallest part 1.19" Area supported by each stay 81" Working pressure by rules 117 End plates in steam space:
Material steel Thickness 3/4" Pitch of stays 15 x 15" How are stays secured nuts Working pressure by rules 118 lbs Material of stays steel
Diameter at smallest part 2.41" Area supported by each stay 325" Working pressure by rules 120 lbs Material of Front plates at bottom steel
Thickness 5/8" Material of Lower back plate steel Thickness 2 1/2" Greatest pitch of stays 12 9/16" Working pressure of plate by rules 125 lbs
Diameter of tubes 3 1/2" Pitch of tubes 4 3/4 x 4 3/4" Material of tube plates steel Thickness: Front { 5/8" Back 5/8" Mean pitch of stays 9 1/2"
Pitch across wide water spaces 14" Working pressures by rules 150 lbs Girders to Chamber tops: Material iron Depth and
thickness of girder at centre 7 x 2.3/4" Length as per rule 2.8" Distance apart 7/2" Number and pitch of Stays in each 3 - 8"
Working pressure by rules 115 lbs Superheater or Steam chest; how connected to boiler yes Can the superheater be shut off and the boiler worked
separately yes Diameter yes Length yes Thickness of shell plates yes Material yes Description of longitudinal joint yes Diam. of rivet
holes yes Pitch of rivets yes Working pressure of shell by rules yes Diameter of flue yes Material of flue plates yes Thickness yes
If stiffened with rings yes Distance between rings yes Working pressure by rules yes End plates: Thickness yes How stayed yes
Working pressure of end plates yes Area of safety valves to superheater yes Are they fitted with easing gear yes



DONKEY BOILER— Description *None.*

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 casing gear If steam from main boilers 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 end + 2 bottom end connecting rod bolts, 2 main bearing bolts, 1 set coupling bolts, 1 set of Feed + Bilge pump valves, etc.*

The foregoing is a correct description,

MUIR & HOUGHTON, LIMITED.

Manufacturer.

Colin Houston

Dates During progress of work in shops— *1898: Mar. 7. 11. 18. April. 21. May. 26. 28. Aug. 26. Sept. 8. 15. 19. 27. 28. 30. Oct. 7. 11.*
 During erection on board vessel— *22. 28. Nov. 4. 7. 11. 24.*
Total No. of visits *22*

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

ENGINES—Length of stern bush *3.0"* Diameter of crank shaft journals *8.22"* as per rule *8 3/8"* as fitted Diameter of thrust shaft under collars *8 3/8"*

BOILERS—Range of tensile strength *28 to 32* Are they welded or flanged *neither* DONKEY BOILERS—No. Range of tensile strength

Is the approved plan of main boiler forwarded herewith *Yes* Is the approved plan of donkey boiler forwarded herewith

The Machinery of this vessel has been constructed under Special Survey, is of good material & workmanship has been securely fitted on board, and is in my opinion eligible to be classed in the Register Book & to have a record of L.M.C. 11.98 noted therein.

It is submitted that this vessel is eligible for THE RECORD. L.M.C. 11.98

A.C.H.
30. 11. 98.

H.S.
30. 11. 98

Certificate (if required) to be sent to Committee's Minutes.

The amount of Entry Fee. £ *1: -* : When applied for, *14. 11. 98*
Special £ *12. 15* :
Donkey Boiler Fee £ *- : 10* : When received, *17. 11. 98*
Travelling Expenses (if any) £ : : *CASH.*

Committee's Minute

FRI. 2 DEC 1898

Assigned

+ L.M.C. 11.98

MACHINERY CERTIFICATE WRITTEN.

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



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