

# REPORT ON MACHINERY.

DES. 23 OCT 1900

Port of Glasgow  
 No. in Survey held at Glasgow Date, first Survey 30 March Last Survey 16 Octr 1900  
 Reg. Book. " (Number of Visits 25)  
 on the S.S. "MACHREE" Tons { Gross 251.47 Net 41.06  
 Master C. Walsh Built at Bowling By whom built Scott & Co. Ltd When built 1900  
 Engines made at Glasgow By whom made Muir & Houston Ltd when made 1900  
 Boilers made at Glasgow By whom made Muir & Houston when made 1900  
 Registered Horse Power \_\_\_\_\_ Owners Paton & Hendry Port belonging to Glasgow  
 Nom. Horse Power as per Section 28 41 Is Refrigerating Machinery fitted No Is Electric Light fitted No

**ENGINES, &c.**—Description of Engines Compound screw No. of Cylinders 2 No. of Cranks 2  
 Dia. of Cylinders 14", 29" Length of Stroke 21" Revs. per minute 110 Dia. of Screw shaft 5.98 as per rule 6 3/8 as fitted Lgth. of stern bush 25 1/2"  
 Dia. of Tunnel shaft none as per rule Dia. of Crank shaft journals 5.7 as per rule 6" as fitted Dia. of Crank pin 6" Size of Crank webs 3 3/4" Dia. of thrust shaft under collars 6" Dia. of screw 6-6 3/4" Pitch of screw 9.0" No. of blades 4 State whether moveable no Total surface 15 sq. ft  
 No. of Feed pumps 1 Diameter of ditto 2" Stroke 10 1/2" Can one be overhauled while the other is at work ✓  
 No. of Bilge pumps 1 Diameter of ditto 2" Stroke 10 1/2" Can one be overhauled while the other is at work ✓  
 No. of Donkey Engines one Sizes of Pumps 6 x 4 x 6" Duplex No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room Two 2" dia" In Holds, &c. One 2" dia"  
 No. of bilge injections 1 sizes 2 1/2" Connected to condenser, or to circulating pump hump Is 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 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 before launch Is the screw shaft tunnel watertight none  
 Is it fitted with a watertight door ✓ worked from ✓

**BOILERS, &c.**— (Letter for record (5)) Total Heating Surface of Boilers 770 sq. ft Is forced draft fitted no  
 No. and Description of Boilers One single ended Working Pressure 120 lbs Tested by hydraulic pressure to 240 lbs  
 Date of test 4/9/00 Can each boiler be worked separately ✓ Area of fire grate in each boiler 31 sq. ft No. and Description of safety valves to each boiler 2 Patent spring Area of each valve 4.91 Pressure to which they are adjusted 125 lbs Are they fitted with easing gear yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork 9" Mean dia. of boilers 10.6" Length 9.0" Material of shell plates steel  
 Thickness 1/16" Range of tensile strength 28632 Are they welded or flanged no Descrip. of riveting: cir. seams double long. seams treble  
 Diameter of rivet holes in long. seams 1 1/8" Pitch of rivets 7 1/2" Lap of plates or width of butt straps 17"  
 Per centages of strength of longitudinal joint rivets 113 plate 85 Working pressure of shell by rules 132 lbs Size of manhole in shell 12 x 16"  
 Size of compensating ring McKeils No. and Description of Furnaces in each boiler 2 Steam Material steel Outside diameter 39"  
 Length of plain part top 5.4 bottom 7.2 Thickness of plates crown 3/16" bottom 1/16" Description of longitudinal joint welded No. of strengthening rings ✓  
 Working pressure of furnace by the rules 122 lbs Combustion chamber plates: Material steel Thickness: Sides 1/2" Back 1/2" Top 1/2" Bottom 1/16"  
 Pitch of stays to ditto: Sides 8 x 8" Back 8 x 8" Top 8 x 7 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 135 lbs  
 Material of stays steel Area Area Diameter at smallest part .96" Area supported by each stay 64" Working pressure by rules 120 lbs End plates in steam space:  
 Material steel Thickness 13/16" Pitch of stays 15 x 15" How are stays secured nuts Working pressure by rules 139 lbs Material of stays steel  
 Area Area Diameter at smallest part 2.71" Area supported by each stay 225" Working pressure by rules 120 lbs Material of Front plates at bottom steel  
 Thickness 5/8" Material of Lower back plate steel Thickness 5/8" Greatest pitch of stays 12 1/2 x 8" Working pressure of plate by rules 122 lbs  
 Diameter of tubes 3/4" Pitch of tubes 4 1/8 x 4 1/2" Material of tube plates steel Thickness: Front 5/8" Back 5/8" Mean pitch of stays 9 1/8"  
 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 6 x 2-3/4" Length as per rule 27" Distance apart 7 1/2" Number and pitch of Stays in each 2-8"  
 Working pressure by rules 126 lbs 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 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 ✓

Lloyd's Register Foundation  
 615721-0041

**DONKEY BOILER**— No. *None* 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 ✓

Dia. of donkey boiler ✓ Length ✓ Material of shell plates ✓ Thickness ✓ Range of tensile strength ✓ Descrip. of riveting long. seams ✓

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:— *Two top end, 3 two bottom end connecting rod bolts, two main bearing bolts, one set coupling bolts, one set of feed & bilge pump valves etc.*

The foregoing is a correct description,

*Wm Houston* Manufacturer.

1900. *M.A.* Mar. 30. Apr. 5. 18. 30. May 3. 9. June. 6. 8. 16. 29. July. 9. 20.

Dates of Survey while building } During progress of work in shops - - }  
 } During erection on board vessel - - }  
 Total No. of visits } *25.*

Is the approved plan of main boiler forwarded herewith *no.* *same as sp Bonahave*

General Remarks (State quality of workmanship, opinions as to class, &c.) *The machinery of this vessel has been constructed under Special Survey, the material & workmanship are of good quality, it has been securely fastened on board and tried under steam. In my opinion it is eligible to be classed in the Register Book with the notation of + L.M.C. 10.00.*

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 10.00.

*B.D.*  
23-10-00.

*J.S.*  
23.10.00

The amount of Entry Fee. £ 1 : : When applied for, 18/10/1900  
 Special . . . . . £ 8 : :  
 Donkey Boiler Fee . . . . . £ : :  
 Travelling Expenses (if any) £ : : When received, 25/10/00

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

Committee's Minute *Glasgow. 22 OCT. 1900*  
 Assigned *+ L.M.C. 10.00.*  
*(taken for fair)*

MACHINERY CERTIFICATE WRITTEN 23/10

Lloyd's Register Foundation

Glasgow

Certificate (if required) to be sent to

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