

REPORT ON MACHINERY.

NO. 13434

Port of Glasgow
 No. in Survey held at Glasgow Date, first Survey 17th Decr 1894 Last Survey 4th June 1895
 Reg. Book. S. S. "Barcelona" (Number of Visits 58)
 on the S. S. "Barcelona" Tons { Gross 4218 Net 2461
 Master J. B. Langaray Built at Glasgow By whom built H. Kennell & Co. When built 1895
 Engines made at Glasgow By whom made Dunsmuir & Jackson when made 1895
 Boilers made at Glasgow By whom made Dunsmuir & Jackson when made 1895
 Registered Horse Power 500 Owners Pinillos Saenz & Co. Port belonging to Madrid
 Nom. Horse Power as per Section 28 502

ENGINES, &c.— Description of Engines Triple expansion direct acting No. of Cylinders Three
 Diameter of Cylinders 30" 48" 78" Length of Stroke 54" Revolutions per minute 78 Diameter of Screw shaft as per rule 14 3/8"
 Diameter of Tunnel shaft as fitted 13 3/4" Diameter of Crank shaft journals 14 3/8" Diameter of Crank pin 14 1/2" Size of Crank webs 9 1/2" x 26 1/2"
 Diameter of screw 17' 6" Pitch of screw 22' 0" No. of blades four State whether moveable solid Total surface 94 sq ft
 No. of Feed pumps 2 Diameter of ditto 4" Stroke 27" Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 4" Stroke 27" Can one be overhauled while the other is at work yes
 No. of Donkey Engines two Sizes of Pumps 10" 8" 4" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room four 3 1/2" in gutters In Holds, &c. four 3 1/2" in fore holds
three 3 1/2" in aft holds and tunnel
 No. of bilge injections one sizes 7" Connected to condenser, or to circulating pump air 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 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 Hot bilge pipes How are they protected under ceiling
 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 launching Is the screw shaft tunnel watertight apparently
 Is it fitted with a watertight door yes worked from Upper Deck

BOILERS, &c.— (Letter for record S) Total Heating Surface of Boilers 5726 + 2602 = 8328
 No. and Description of Boilers 2 Double ended and 1 Single ended See Supplemental report Working Pressure 160 lbs Tested by hydraulic pressure to 320 lbs
 Date of test 9.4.95 Can each boiler be worked separately yes Area of fire grate in each boiler 114 No. and Description of safety valves to
 each boiler two spring loaded Area of each valve 12.57 Pressure to which they are adjusted 165 lbs Are they fitted
 with easing gear yes Smallest distance between boilers or uptakes and bunkers or woodwork 8" Mean diameter of boilers 168"
 Length 17' 0" Material of shell plates Steel Thickness 1 1/16" Description of riveting: circum. seams lap 2 x 3 knots, long. seams 8 knots 5 knots
 Diameter of rivet holes in long. seams 1 1/4" Pitch of rivets 9 1/8" Lap of plates or width of butt straps 19 1/8"
 Per centages of strength of longitudinal joint 89.3 Working pressure of shell by rules 164 lbs Size of manhole in shell 12' x 16"
 Size of compensating ring Mc Nails No. and Description of Furnaces in each boiler 6 Corrugated Material Steel Outside diameter 42"
 Length of plain part 6' 11" Thickness of plates 1 1/16" Description of longitudinal joint welded No. of strengthening rings corrugated
 Working pressure of furnace by the rules 165 lbs Combustion chamber plates: Material Steel Thickness: Sides 9/16" Back none Top 9/16" Bottom 7/8"
 Pitch of stays to ditto: Sides 8 1/4" x 7 1/2" Back — Top 8 1/4" x 7 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 161 lbs
 Material of stays Steel Diameter at smallest part 1 1/4" Area supported by each stay 61.9 sq in Working pressure by rules 191 lbs End plates in steam space:
 Material Steel Thickness 1 1/16" Pitch of stays 18 3/4" How are stays secured 8 nuts Working pressure by rules 161 lbs Material of stays Steel
 Diameter at smallest part 6.33 Area supported by each stay 18 3/8" x 16" Working pressure by rules 195 lbs Material of Front plates at bottom Steel
 Thickness 13/16" Material of Lower back plate none Thickness — Greatest pitch of stays — Working pressure of plate by rules —
 Diameter of tubes 3 1/2" Pitch of tubes 4 1/8" x 4 1/8" Material of tube plates Steel Thickness: Front 13/16" Back 13/16" Mean pitch of stays 12 1/16"
 Pitch across wide water spaces 15" Working pressures by rules 160 lbs, 162 lbs Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 8 3/4" x 2 x 1" Length as per rule 37 3/8" Distance apart 8 1/4" Number and pitch of Stays in each 3 x 7 1/2"
 Working pressure by rules 165 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 —

13737 gr.

DONKEY BOILER— Description *See Supplementary Report II*
Made at _____ By whom made _____ When made _____ Where fixed *Shelshard*
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:— *As required by the rules, also one propeller and shaft, 3 crankshaft, 1 feed pump plunger, one air-one circulating pump and one slide valve rod, 2 Eccentrics complete, 2 Sets of Ramsbottom piston rings, 2 piston valve rings, 1 H.P. Cylinder cover, Several brackets and etc. value + safety valve springs etc.*
The foregoing is a correct description,
Dunsmuir & Jackson Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c. *The engines and boilers of this vessel have been built under the conditions of Special Survey, they have been securely fitted on board and satisfactorily tested under steam.*
The material and workmanship are good.
In our opinion this vessel is eligible for the record + L.M.C 6.95

It is submitted that this vessel is eligible to have L.M.C 6.95 recorded

L.M.C 6.95
HS 8328
GS 298

Certificate (if required) to be sent to *Glasgow*
The amount of Entry Fee.. £ *3* : " : When applied for, *4/6*
Special .. £ *45* : *2* :
Donkey Boiler Fee .. £ " : " : When received, *10/6*
Travelling Expenses (if any) £ " : " :
James Morrison & C. E. Bromeyer
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.
Clyde District
Committee's Minute *TUES 11 JUN 1895*
Assigned *+ L.M.C 6.95*