

REPORT ON MACHINERY.

No. 6460 Received at London Office MONDAY 8 DEC
 No. in Survey held at Glasgow Date, first Survey 23rd June Last Survey 14th November 1884
 Reg. Book. " (Number of Vents 23) 226. 23
 on the " Tons 86. 43
 Master Peter Mitchell Built at Paisley By whom built Messrs J. McArthur & Co When built 1884
 Engines made at Glasgow By whom made Messrs Muir & Houston when made "
 Boilers made at " By whom made " when made "
 Registered Horse Power 55 Owners The Earl of Leikim Port belonging to Londonderry

ENGINES, &c.—

Description of Engines Compound Inverted direct acting Surface Condensing
 Diameter of Cylinders 18" x 36" Length of Stroke 24" No. of Rev. per minute 95 Point of Cut off, High Pressure 1 1/4" Low Pressure 1 1/2"
 Diameter of Screw shaft 6" Diam. of Tunnel shaft 6" Diam. of Crank shaft journals 6" Diam. of Crank pin 6" size of Crank webs 4" x 1/2"
 Diameter of screw 8" 6 Pitch of screw 12 ft No. of blades 3 state whether moveable No total surface 25 sq ft
 No. of Feed pumps One diameter of ditto 2 1/4" Stroke 13 1/2" Can one be overhauled while the other is at work ✓
 No. of Bilge pumps One diameter of ditto 2 1/4" Stroke 13 1/2" Can one be overhauled while the other is at work ✓
 Where do they pump from each compartment
 No. of Donkey Engines One Size of Pumps 3" cyl 5" str 6 Where do they pump from Sea, Ballast tanks
bilges of each compartment
 Are all the bilge suction pipes fitted with roses Yes Are the roses always accessible Yes Are the sluices on Engine room bulkheads always accessible Yes
 No. of bilge injections One and sizes 2 1/2 dia Are they connected to condenser, or to circulating pump sea pump
 How are the pumps worked by levers
 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 accessible at all times Yes
 Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges Yes
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock previous to launching
 Is the screw shaft tunnel watertight No tunnel and fitted with a sluice door ✓ worked from ✓

BOILERS, &c.—

Number of Boilers One Description Cyl Mult Single ended Whether Steel or Iron Steel
 Working Pressure 80 lbs Tested by hydraulic pressure to 160 lbs Date of test October 14th 1884
 Description of superheating apparatus or steam chest Vertical dome
 Can each boiler be worked separately ✓ Can the superheater be shut off and the boiler worked separately ✓
 No. of square feet of fire grate surface in each boiler 29 sq ft Description of safety valves direct spring No. to each boiler two
 Area of each valve 4.07 sq" Are they fitted with easing gear Yes No. of safety valves to superheater ✓ area of each valve ✓
 Are they fitted with easing gear ✓ Smallest distance between boilers and bunkers or woodwork 6" Diameter of boilers 10" 10 3/4"
 Length of boilers 9' 0" description of riveting of shell long. seams treb riv lap circum. seams dbl riv ends pgt thickness of shell plates 5/8"
 Diameter of rivet holes 1 3/4" whether punched or drilled drilled pitch of rivets 4 3/4" Lap of plating 1/4"
 Percentage of strength of longitudinal joint 45% working pressure of shell by rules 82 lbs size of manholes in shell 16 3/4" x 11 3/4"
 Size of compensating rings 5 7/8" x 5 1/8" No. of Furnaces in each boiler two
 Outside diameter 39" length, top 5' 8" bottom 5' 8" thickness of plates 15" description of joint S. riv butt if rings are fitted ✓
 Greatest length between rings ✓ working pressure of furnace by the rules 89 lbs combustion chamber plating, thickness, sides 7/16" back 7/16" top 1/16"
 Pitch of stays to ditto, sides 4 1/4" x 7/4" back 4 1/4" x 7/4" top 8" x 8 1/2" If stays are fitted with nuts or riveted heads riveted working pressure of plating by rules 85 lbs Diameter of stays at smallest part 1 1/4" working pressure of ditto by rules 114 lbs end plates in steam space, thickness 3/4"
 Pitch of stays to ditto 15" x 15" how stays are secured double nuts working pressure by rules 80 lbs diameter of stays at smallest part 2" working pressure by rules 83 lbs Front plates at bottom, thickness 9/16" Back plates, thickness 9/16"
 Greatest pitch of stays ✓ working pressure by rules ✓ Diameter of tubes 3 1/2" pitch of tubes 4 3/4" x 4 3/4" thickness of tube plates, front 5/8" back 5/8" how stayed stay tubes pitch of stays 12" width of water spaces 4 1/2" x 8"
 Diameter of Superheater or Steam chest 2' 6" length 3' 9" thickness of plates 3/8" description of longitudinal joint S. riv lap diam. of rivet holes 15/16"
 Pitch of rivets 3 1/2" working pressure of shell by rules 182 lbs diameter of flue ✓ thickness of plates ✓ If stiffened with rings ✓
 Distance between rings ✓ working pressure by rules ✓ end plates of superheater, or steam chest; thickness 9/16" how stayed 2-1 1/2" stays
 Superheater or steam chest; how connected to boiler double riveted flange

6760-96

DONKEY BOILER— Description *Vertical*
 Made at *Glasgow* by whom made *Messrs Muir & Houston* when made *1884* where fixed *Stokehold*
 Working pressure *160 lbs* tested by hydraulic pressure to *160 lbs* No. of Certificate *1521* fire grate area *4 1/2 sq ft* description of safety
 valves *direct spring* No. of safety valves *One* area of each *4.0 sq ft* if fitted with easing gear *if steam from main boilers can*
 enter the donkey boiler *No* diameter of donkey boiler *3.9* length *9.0* description of riveting *double riv lap*
 Thickness of shell plates *3/8* diameter of rivet holes *5/16* whether punched or drilled *drilled* pitch of rivets *3 1/2* lap of plating *4 1/2*
 per centage of strength of joint *71%* thickness of crown plates *1/2* stayed by *Uptake & dished*
 Diameter of furnace, top *2.10* bottom *3.4* length of furnace *4.2* thickness of plates *13/32* description of joint *S. riv lap*
 Thickness of furnace crown plates *1/2* stayed by *as above* working pressure of shell by rules *118 lbs*
 Working pressure of furnace by rules *81 lbs* diameter of uptake *9 1/2* thickness of plates *5/8* thickness of water tubes *3/8*

SPARE GEAR. State the articles supplied:— *2 con rod top end bolts & nuts 2 con rod bottom end*
bolts & nuts 2 main bearing bolts 1 set of coupling bolts 1 set of feed & bilge pump
valves a quantity of assorted bolts & nuts and iron of various sizes

The foregoing is a correct description,
Muir & Houston Manufacturer.

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

The Engines and Boilers of this vessel have been constructed
under special survey they are of good material and workmanship
and are now in good order and safe working condition and eligible
*in my opinion to be noted in the Register Book * L. M. 6. 11-84*

The Shafting was examined at the works of the Engineers
and appeared to be sound and satisfactory

It is submitted that this vessel is eligible to have the notification + am l 11-84 recorded.

5/12/84

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The amount of Entry Fee .. £ 1 : 0 : 0 received by me,
 Special *[initials]* .. £ 8 : 5 : 0
 Donkey Boiler Fee .. £ : : :
 Certificate (if required) .. £ : : : *5/12/1884*
 To be sent as per margin.

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

Committee's Minute **TUESDAY 9 DEC 1884**

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