

REPORT ON MACHINERY.

Received at London Office Reg'd. Clk. M. J. R. 1884.

No. 6449
 No. in Survey held at Glasgow Date, first Survey 26th June 1883 Last Survey 5th March 1884
 Reg. Book. on the Screw Steamer Dunedin (Number of Visits 24) Tons 1325.68
858.05
 Master A. J. Campbell Built at Glasgow By whom built A. Stephen & Sons When built 1884.
 Engines made at Glasgow By whom made A. Stephen & Sons when made 1884.
 Boilers made at Do By whom made A. Stephen & Sons when made 1884.
 Registered Horse Power 140 Owners Menderson & W. Antosh Port belonging to Leith.

ENGINES, &c.—

Description of Engines Inverted Direct acting Surface Condensing Compound
 Diameter of Cylinders 28 & 52 Length of Stroke 36 No. of Rev. per minute 60 Point of Cut off, High Pressure 1/2 Low Pressure 1/2
 Diameter of Screw shaft 9 1/2 Diam. of Tunnel shaft 9 Diam. of Crank shaft journals 9 1/2 Diam. of Crank pin 9 3/4 size of Crank webs 10 1/2 x 6
 Diameter of screw 13-3 Pitch of screw 17-0 No. of blades Four state whether moveable None total surface 40 sq ft.
 No. of Feed pumps Two diameter of ditto 3 1/2 Stroke 1-8 Can one be overhauled while the other is at work Yes
 No. of Bilge pumps Two diameter of ditto 3 1/2 Stroke 1-8 Can one be overhauled while the other is at work Yes.
 Where do they pump from Connected to all compartments
 No. of Donkey Engines One Size of Pumps 8 gal. 4 pump x 8 stroke Where do they pump from Sea, bilges, hotwell & tanks
Also two injectors connected to tanks.
 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 4 Are they connected to condenser, or to circulating pump Circulating
 How are the pumps worked By levers from crosshead of each engine.
 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 Before launching.
 Is the screw shaft tunnel watertight Yes and fitted with a sluice door Yes worked from Engine room at deck.

BOILERS, &c.—

Number of Boilers One Description Mult. Cylind. Whether Steel or Iron Iron Shell
 Working Pressure 75 lbs Tested by hydraulic pressure to 150 lbs Date of test January 19th 1884
 Description of ~~superheating apparatus~~ or steam chest Horizontal
 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 49 1/2 sq ft Description of safety valves Direct springs No. to each boiler Two
 Area of each valve 15.9 sq ins 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 10 Diameter of boilers 14-0
 Length of boilers 11-0 description of riveting of shell long. seams Weld & Butt circum. seams Lap. double Thickness of shell plates 1 3/32
 Diameter of rivet holes 1 3/16 whether punched or drilled Drilled pitch of rivets 5 1/8 Lap of plating Butt 13
 Per centage of strength of longitudinal joint Weld 70 working pressure of shell by rules 85 lbs size of manholes in shell 15 x 11 1/2
 Size of compensating rings 4 1/2 x 78 double riveted No. of Furnaces in each boiler Three
 Outside diameter 3-7.3-3 length, top 7-6 bottom 7-6 thickness of plates 1 1/32 description of joint Double butt if rings are fitted No
 Greatest length between rings — working pressure of furnace by the rules 78 lbs combustion chamber plating, thickness, sides 7/16 back 7/16 top 7/16
 Pitch of stays to ditto, sides 7 1/2 back 7 1/2 top — If stays are fitted with nuts or riveted heads Nuts working pressure of plating by rules 90 lbs Diameter of stays at smallest part 1 1/4 in working pressure of ditto by rules 100 lbs end plates in steam space, thickness 3/4
 Pitch of stays to ditto 15 how stays are secured Nuts & washers working pressure by rules 90 lbs diameter of stays at smallest part 2 3/16 working pressure by rules 100 lbs Front plates at bottom, thickness 3/4 Back plates, thickness 3/4
 Greatest pitch of stays 15 1/4 working pressure by rules 75 lbs Diameter of tubes 3 1/2 pitch of tubes 4 3/4 thickness of tube plates, front 3/4 back 7/16 how stayed Stay tubes pitch of stays 15 x 14 1/4 width of water spaces 3 1/2 to 7 1/2
 Diameter of Superheater or Steam chest 3-0 length 6-9 thickness of plates 7/16 description of longitudinal joint Lap. double diam. of rivet holes 5/4
 Pitch of rivets 2 3/4 working pressure of shell by rules 140 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 1/2 how stayed Ends drilled
& one stay 1 1/2 dia Superheater or steam chest; how connected to boiler Two necks 15 dia 78 thick

Form No. 8-2000-3/7/83

6449 g/b

DONKEY BOILER— Description *Vertical*
 Made at *Birmingham* by whom made *Cochran & Co* when made *1883* where fixed *In Stokholm*
 Working pressure *60 lbs* tested by hydraulic pressure to *120 lbs* No. of Certificate *361* fire grate area *14 1/4 sq ft* description of
 valves *Direct spring* No. of safety valves *Two* area of each *7 sq in* if fitted with easing gear *Yes* if steam from main boiler
 enter the donkey boiler *No* diameter of donkey boiler *5-6* length *12-3* description of riveting *Lap double*
 Thickness of shell plates *7/16* diameter of rivet holes *3/4* whether punched or drilled *Punched* pitch of rivets *2 1/2* lap of plating *4*
 per centage of strength of joint *70* thickness of crown plates *7/16* stayed by *Hemispherical*
 Diameter of furnace, top *2-3* bottom *4-6* length of furnace *3-3* thickness of plates *7/16* description of joint *Single lap*
 Thickness of furnace crown plates *7/16* stayed by *Hemispherical* working pressure of shell by rules *7*
 Working pressure of furnace by rules *65 lbs* diameter of uptake *1-3* thickness of plates *7/16* thickness of water tubes —

SPARE GEAR. State the articles supplied:— *Two tops & bottom end bolts & nuts - Two main bearing bolts - One set of coupling bolts - Feed & bilge pump valves - Assorted bolts & nuts - iron &c -*

The foregoing is a correct description,
Ally Stephen & sons Manufacturer.

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

These Engines & Boilers have been constructed under Special Survey - they are good material & workmanship - they have been well fitted on board & satisfactorily tested under steam & I am of opinion they are eligible to be classed "ALLOYD'S M.C." 3-84. in the Register Book.

Appended hereto are the reports on Forgings & Tests of Steel plates. The approved trading of the main boiler of this vessel is attached to the report on machinery of S. S. "Blau Davidron" No 6355. The funnel shafting in this instance were examined by me while finishing at the engineers works.

It is submitted that this vessel is eligible to have the notification + sub 3.54 recorded.

The amount of Entry Fee £ *2* : 0 : 0 received by me,
 Special .. £ *21* : 0 : 0
 Donkey Boiler Fee .. £ *0* : 0 : 0
 Certificate (if required) .. £ *0* : 0 : 0 *5/3/1884*
 To be sent as per margin.
 (Travelling Expenses, if any, £ - *8/-*)

Committee's Minute

FRIDAY 7 MARCH

[Signature]

Walter E. Roberts
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Lloyd's Register Foundation