

REPORT ON MACHINERY. 3914

No. 3914 Port of Aberdeen Received at London Office MON 29 OCT 1888
 No. in Survey held at Aberdeen Date, first Survey 14 May Last Survey 23 Oct 1888
 Reg. Book. 2 on the S.S. DABUIA MANZI (Number of Visits 35) Tons 980
 Master Flint Built at Aberdeen By whom built Hall Russell & Co When built 1882
 Engines made at Aberdeen By whom made Hall Russell & Co when made 1888
 Boilers made at D By whom made D when made Main 1888
Donkey 1882
 Registered Horse Power 200 Owners J J Rennie & Son Port belonging to Aberdeen

ENGINES, &c.—

Description of Engines Inverted Compound, Direct Acting, Triple Expansion Surface *Condensing*
 Diameter of Cylinders 21-33-56 Length of Stroke 42 No. of Rev. per minute 70 Point of Cut off, High Pressure 29 ^{1M} Low Pressure 22 1/4
 Diameter of Screw shaft Diam. of Tunnel shaft Diam. of Crank shaft journals Diam. of Crank pin size of Crank webs
 Diameter of screw Pitch of screw No. of blades state whether moveable total surface
 No. of Feed pumps Two diameter of ditto 2 3/4 Stroke 23 Can one be overhauled while the other is at work yes
 No. of Bilge pumps diameter of ditto Stroke Can one be overhauled while the other is at work
 Where do they pump from
 No. of Donkey Engines Size of Pumps Where do they pump from
 Are all the bilge suction pipes fitted with roses Are the roses always accessible Are the sluices on Engine room bulkheads always accessible
 No. of bilge injections and sizes Are they connected to condenser, or to circulating pump
 How are the pumps worked
 Are all connections with the sea direct on the skin of the ship Are they Valves or Cocks
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Are the discharge pipes above or below the deep water line
 Are they each fitted with a discharge valve always accessible on the plating of the vessel Are the blow off cocks fitted with a spigot and brass covering plate
 What pipes are carried through the bunkers How are they protected
 Are all pipes, cocks, valves, and pumps in connection with the machinery accessible at all times
 Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock
 Is the screw shaft tunnel watertight and fitted with a sluice door worked from

BOILERS, &c.—

Number of Boilers Two Description Cylindrical Whether Steel or Iron Steel
 Working Pressure 160 Tested by hydraulic pressure to 320 Date of test 24-9-88
 Description of separating apparatus or steam chest Horizontal Drum
 Can each boiler be worked separately yes Can the superheater be shut off and the boiler worked separately
 No. of square feet of fire grate surface in each boiler 50 Description of safety valves Spring No. to each boiler 2
 Area of each valve 11 1/2 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 12 Diameter of boilers 13.4
 Length of boilers 10-0 description of riveting of shell long. seams as per plan circum. seams double lap Thickness of shell plates 1 1/2
 Diameter of rivet holes 1 1/4 whether punched or drilled drilled pitch of rivets 8 1/4 Lap of plating 19 Skap
 Per centage of strength of longitudinal joint 84-8 working pressure of shell by rules 168 size of manholes in shell 16 x 12
 Size of compensating rings 2-8 Dia x 1 1/2 No. of Furnaces in each boiler Three, ritted
 Outside diameter 41 length, top 6-9 bottom 9-0 thickness of plates 1 1/2 description of joint welded if rings are fitted half
 Greatest length between rings 6-0 working pressure of furnace by the rules 170 combustion chamber plating, thickness, sides 17/32 back 17/32 top 17/32
 Pitch of stays to ditto, sides 7 3/8 back 7 3/8 top lie If stays are fitted with nuts or riveted heads nuts working pressure of plating by rules 160 Diameter of stays at smallest part 1 1/4 working pressure of ditto by rules 179 end plates in steam space, thickness 1
 Pitch of stays to ditto 14 3/4 x 14 1/2 how stays are secured dn + wash working pressure by rules 164 diameter of stays at smallest part 2 5/16 working pressure by rules 176 Front plates at bottom, thickness 13/16 Back plates, thickness 7/8
 Greatest pitch of stays as per plan working pressure by rules app 160 Diameter of tubes 3 1/2 pitch of tubes 4 3/4 thickness of tube plates, front 15/16 back 7/8 how stayed Luber pitch of stays 9 1/2 x 14 1/2 width of water spaces 1 1/4
 Diameter of Superheater or Steam chest 3-3 length 5-6 thickness of plates 1 1/2 description of longitudinal joint double lap diam. of rivet holes 13/16
 Pitch of rivets 2 3/4 working pressure of shell by rules 173 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 5/8 how stayed disked & contracted
One Stay at Centre Superheater on steam chest; how connected to boiler Contracted

Form No. 8-2000-17/8/8-T. & S. - Transfer Ink. (State if Report is also sent on the Hull of the Ship)

DONKEY BOILER— Description ✓ *Old boiler taken out, overhauled and replaced.*
 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 if fitted with easing gear if steam from main boilers can enter the donkey boiler
 diameter of donkey boiler length description of riveting
 Thickness of shell plates diameter of rivet holes whether punched or drilled pitch of rivets lap of plating
 per centage of strength of joint thickness of crown plates stayed by
 Diameter of furnace, top bottom length of furnace thickness of 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 plates thickness of water tubes

SPARE GEAR. State the articles supplied :—

The foregoing is a correct description,
Hall Russell & Co Manufacturer.

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

The old Main boilers taken out & new ones fitted -
 The Donkey boiler taken out, overhauled, tested by water to 100 lbs ~~at~~, put into safe working order for 70 lbs & replaced.
 The engines have been converted into triple expansion - 3 Crank engines - by adding part new engine with HP Cylinder & fitting liner into LP Cylinder.
 The Cylinders Slides, Pumps & Engines generally overhauled & put into good order.
 One new length of Crank shaft fitted, one length of the old crank shaft found fractured - this has been replaced with the spare length, Marks (circum²) found around fillets of Crank pin in other length (Intermediate) the same cut into with cross cut & found not dangerous. Owners informed that 12 month limit would be recommended.
 The engines tested under steam & Main & Donkey Safety Valves set to 165 lb & 70 lbs respectively.
 The Main Boiler & the part new engine have been built under special survey, the material & workmanship is good throughout.

The Machinery of this vessel is in safe working order & eligible in my opinion to remain as classed & to have N.B. 88 & I.M.C. 10-88 recorded - provided the Crank pin of the Intermediate length of Crank shaft is again examined within twelve months.

The amount of Entry Fee .. £ : : received *of ABN.*
 Special .. £ 15 : - : *new Boilers & Machinery*
 Donkey Boiler .. £ 2 : 2 : *Mach^y old.*
 Certificate (if required) .. £ : : *31/10/88*
 (To be sent as per margin.)
 (Travelling Expenses, if any, £)

John H. Heck 2019
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

TUES 30 OCT 1888

It is submitted that this vessel is eligible to have + I.M.C. 10-88 + N.B. 88 recorded subject to the pin of intermediate crank shaft being again examined within 12 mos. *M.S. 29.10.88*

+ dmb 10/88
 + NB 88
 subject to