

# 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<sup>th</sup> May

Last Survey 23 Oct 1888

Reg. Book.

(Number of Visits 35)

2 on the S.S. DABUIA MANZI

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 T Rennie & Son Port belonging to Aberdeen

## ENGINES, &c.—

Description of Engines Inverted Compound, Direct Acting, Triple Expansion Surface

Diameter of Cylinders 21-33-56 Length of Stroke 42 No. of Rev. per minute 70 Point of Cut off, High Pressure 29 <sup>1M</sup> 25 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 superheating 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 1/4 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, riveted

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 d n + 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 Lutes 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 disks

One Stay at Centre Superheater on steam chest; how connected to boiler Contracted

(State if Report is also sent on the Hull of the Ship)

[Form No. 8—2000—17/8/86—T. & S.—Transfer Ink.]

ABN9-0167



3914 ABN

**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,

*Atall 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 *W*, 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 liners into LP Cylinder.  
The Cylinders, Slide, 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 (circumference) 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 <sup>built</sup> 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 *✓* *Atall Russell & Co*  
Special *✓* £ 15 : - : *New Boiler & Machinery*  
Donkey Boiler *✓* £ 2 : 2 : *Mach<sup>y</sup> Old*  
Certificate (if required) *✓* £ : : *31/10/88*  
(To be sent as per margin.)  
(Travelling Expenses, if any, £ )  
Committee's Minute *✓* *TUES 30 OCT 1888*  
*+ Lmb 10/88* *subject re*  
*+ NB 88*

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

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. *Atall Russell & Co* 29.10.88