

REPORT ON MACHINERY.

Port of *Aberdeen*

Received at London Office MON. 2 MAY 1892

No. in Survey held at *Aberdeen*
Reg. Book.Date, first Survey *October 24/91* Last Survey *April 29 1892*(Number of Visits *58*)28 on the *Iron Screw Steamer "Aberdeen"*Tons { Gross *3659*
Net *2381*Master *Taylor* Built at *Glasgow* By whom built *Messrs R Napier & Sons* When built *1881*Engines made at *Glasgow* By whom made *Messrs R Napier & Sons* when made *1881*Boilers made at *Aberdeen* By whom made *Messrs Hall Russell & Co.* when made *1892*Registered Horse Power *400* Owners *Messrs J. Thompson & Co.* Port belonging to *Aberdeen*Nom. Horse Power as per Section 28 *415*

ENGINES, &c.— Description of Engines *Triple Expansive* No. of Cylinders *Three*

Diameter of Cylinders *28", 42", 40"* Length of Stroke _____ Revolutions per minute _____ Diameter of Screw shaft *as per rule*

Diameter of Tunnel shaft *as per rule* Diameter of Crank shaft journals _____ Diameter of Crank pin _____ Size of Crank webs *as fitted*

Diameter of screw _____ Pitch of screw _____ No. of blades _____ State whether moveable _____ Total surface _____

No. of Feed pumps _____ Diameter of ditto _____ Stroke _____ Can one be overhauled while the other is at work _____

No. of Bilge pumps _____ Diameter of ditto _____ Stroke _____ Can one be overhauled while the other is at work _____

No. of Donkey Engines _____ Sizes of Pumps _____ No. and size of Suctions connected to both Bilge and Donkey pumps _____

In Engine Room _____ In Holds, &c. _____

No. of bilge injections _____ sizes _____ Connected to condenser, or to circulating pump _____ Is a separate donkey suction fitted in Engine room & size _____

Are all the bilge suction pipes fitted with roses _____ Are the roses in Engine room always accessible _____ Are the sluices on Engine room bulkheads always accessible _____

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 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 _____

Are they carried through the bunkers _____ How are they protected _____

Are the pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times _____

Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges _____

Are the stern tube, propeller, screw shaft, and all connections examined in dry dock _____ Is the screw shaft tunnel watertight _____

Is the tunnel fitted with a watertight door _____ worked from _____

BOILERS, &c.— (Letter for record *"S"*) Total Heating Surface of Boilers *4058 sq ft*

and Description of Boilers *Cylindrical double ended* Working Pressure *160 lbs* Tested by hydraulic pressure to *320 lbs*

No. of test *24.2.92* Can each boiler be worked separately *Yes* Area of fire grate in each boiler *115.5 sq ft* No. and Description of safety valves to _____

Is each boiler *two direct spring* Area of each valve *15.9 sq in* Pressure to which they are adjusted *160 lbs* Are they fitted _____

with easing gear *Yes* Smallest distance between boilers or uptakes and bunkers or woodwork *10"* Mean diameter of boilers *14.2 1/2"*

Length *19.6* Material of shell plates *Steel* Thickness *1 3/32* Description of riveting: circum. seams *Double Int. lap* long. seams *Int. riv butt*

Diameter of rivet holes in long. seams *1 1/16* Pitch of rivets *4 1/4 x 8 1/2* Lap of plates or width of butt straps *Straps 19 1/2 x 1"*

Per centages of strength of longitudinal joint _____ rivets *92.3* Working pressure of shell by rules *165 lbs* Size of manhole in shell *12 x 16*

Size of compensating ring *1 3/32 dbl riv* No. and Description of Furnaces in each boiler *See Purves'* Material *Steel* Outside diameter *43*

Length of plain part _____ Thickness of plates _____ Description of longitudinal joint _____ No. of strengthening rings *2 Ties*

Working pressure of furnace by the rules *161 lbs* Combustion chamber plates: Material *Steel* Thickness: Sides *7/16* Back *7/16* Top *7/16* Bottom *1 1/8*

Pitch of stays to ditto: Sides *7/16 x 7/16* Back *7/16 x 7/16* Top *7/16 x 7/16* If stays are fitted with nuts or riveted heads *nuts* Working pressure by rules *164 lbs*

Material of stays *Steel* Diameter at smallest part *1 3/8 screw* Area supported by each stay *59.09 sq in* Working pressure by rules *169 lbs* End plates in steam space: _____

Material *Steel* Thickness *1"* Pitch of stays *14 1/2 x 14 1/2* How are stays secured *dbl. nuts* Working pressure by rules *164 lbs* Material of stays *Steel*

Diameter at smallest part *2 1/2 screw* Area supported by each stay *214 sq in* Working pressure by rules *176 lbs* Material of Front plates at bottom *Steel*

Thickness *1 3/16* Material of Lower back plate _____ Thickness _____ Greatest pitch of stays _____ Working pressure of plate by rules _____

Diameter of tubes *3 3/4* Pitch of tubes *5 x 5 3/32* Material of tube plates *Steel* Thickness: Front *3/32* Back *1/16* Mean pitch of stays *10 x 10 1/2*

Pitch across wide water spaces *14 1/2* Working pressures by rules *160 lbs* Girders to Chamber tops: Material *Iron* Depth and _____

thickness of girder at centre *9 1/2 x 1 double* Length as per rule *42* Distance apart *7 1/2* Number and pitch of Stays in each *four. 7 1/2*

Working pressure by rules *160 lbs* Superheater or Steam chest; how connected to boiler _____ 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 _____

4375 Abn

DONKEY BOILER— Description

Made at	By whom made	When made	Where fixed
Working pressure	tested by hydraulic pressure to	No. of Certificate	Fire grate area
No. of safety valves	Area of each	Pressure to which they are adjusted	It fitted with casing gear
enter the donkey boiler	Diameter of donkey boiler	Length	Material of shell plates
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	Thickness of shell crown plates	Radius of do.
Dia. of stays	Diameter of furnace Top	Bottom	Length of furnace
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:—

The foregoing is a correct description,

Hall Russell & Co Manufacturers

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

The main boilers of this vessel have been constructed under Special Survey in accordance with the Rules and the approved tracing. They are of good material and workman.

The vessel has been placed in dry dock, the tail & drawn in and examined, and found in good

Four new propeller blades fitted, sea cocks and for all overhauled. Liners fitted in the High and In cylinders, making the diameters 28", 42" and 40".

The cylinders, pistons, slide valves, crank shaft, thrust, and tunnel shafting, and all pumps opened up and examined.

The condenser tubes drawn, the condenser and tubes, cleaned, the tubes refitted, repacked and afterwards tested.

The crosshead found slack in the connecting rod, a new one has been fitted. The main steam pipes taken ashore and tested by hydraulic pressure of 35 lbs. and 4 new lengths fitted. The donkey boiler removed to the boiler shop, and retubed, a riveted patch fitted at the bottom of the shell, and several joints renewed and afterwards tested, by a hydraulic pressure of 120 lbs per sq. inch, with satisfactory result.

Main and donkey boiler Safety Valves tested to the working pressures of 160 lbs and 80 lbs respectively.

The engines and boilers of this vessel are now in good working condition and eligible in my opinion to be noted. L M C 4, 92 N B 92.

Certificate (if required) to be sent to

The amount of Entry Fee. £ ✓ :

When applied for,

Special Hall Russell 10 : 10 :

Apr 24 1892 - Rev 24/4/92

Donkey Boiler Fee £ 4 : 4 :

When received,

Travelling Expenses (if any) £ ✓ :

14/5/92

L Hindmarsh

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

Committee's Minute

TUES. 3 MAY 1892

FRIDAY 24 AUG 1894

Assigned

+ L M C 4, 92 + N B 92

It is submitted that
this vessel is eligible for
THE RECORD + L M C 4, 92
+ N B 92

LR-FAF-TB3-224