

REPORT ON MACHINERY.

Port of *Aberdeen*

Received at London Office

22 DEC 92

No. in Survey held at *Aberdeen*
Reg. Book.

Date, first Survey *October 4* Last Survey *December 20 1892*

(Number of Visits *20*)

90 on the *Wood & S. S. Barbaras*

Tons { Gross *93*
Net *57*

When built *1888*

Master *not appointed* Built at *Anstruther* By whom built *W. Jarvis*

Engines made at *Glasgow* By whom made *W. King & Co.*

when made *1886* fitted *1888*

Boilers made at *Aberdeen* By whom made *Messrs. Hall Russell & Co.*

when made *1892*

Registered Horse Power *20*

Owners *Mr. W. R. Aiken*

Port belonging to *Aberdeen*

Nom. Horse Power as per Section 28 ☒

ENGINES, &c.—

Description of Engines

No. of Cylinders

Diameter of Cylinders Length of Stroke Revolutions per minute Diameter of Screw shaft as per rule as fitted
Diameter of Tunnel shaft as fitted Diameter of Crank shaft journals Diameter 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 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 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 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

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

Is it fitted with a watertight door worked from

BOILERS, &c.—

(Letter for record *S*)

Total Heating Surface of Boilers *249.34 sq ft*

No. and Description of Boilers *One cylindrical multitubular* Working Pressure *100 lb* Tested by hydraulic pressure to *200 lb*

Date of test *27.10.92* Can each boiler be worked separately ☒ Area of fire grate in each boiler *9.3 sq ft* No. and Description of safety valves to

each boiler *Two direct spring* Area of each valve *4.91 sq ft* Pressure to which they are adjusted *100 lb* Are they fitted

with easing gear *Yes* Smallest distance between boilers or uptakes and bunkers or woodwork *8"* Mean diameter of boilers *6.6"*

Length *7.0* Material of shell plates *Steel* Thickness *1/2"* Description of riveting: circum. seams *S. R. lap* long. seams *D. R. lap*

Diameter of rivet holes in long. seams *15/16"* Pitch of rivets *3 1/4"* Lap of plates or width of butt straps *4 3/4"*

Per centages of strength of longitudinal joint rivets *72* plate *71* Working pressure of shell by rules *101 lb* Size of manhole in shell *11 x 15"*

Size of compensating ring *1/2" D. R.* No. and Description of Furnaces in each boiler *One plain* Material *Steel* Outside diameter *33"*

Length of plain part top *4.9"* bottom *6.5"* Thickness of plates crown *1/2"* bottom *1/2"* Description of longitudinal joint *S. R. lap* No. of strengthening rings ☒

Working pressure of furnace by the rules *142 lb* Combustion chamber plates: Material *Steel* Thickness: Sides *1/2"* Back *1/2"* Top *1/2"* Bottom *1/2"*

Pitch of stays to ditto: Sides *7 1/2"* Back *8 x 8"* Top *radial* If stays are fitted with nuts or riveted heads *nuts* Working pressure by rules *120 lb*

Material of stays *Steel* Diameter at smallest part *1 1/4"* Area supported by each stay *64 sq ft* Working pressure by rules *22 lb* End plates in steam space:

Material *Steel* Thickness *3/4"* Pitch of stays *15"* How are stays secured *all nuts* Working pressure by rules *112 lb* Material of stays *Steel*

Diameter at smallest part *2 1/4"* Area supported by each stay *225 sq ft* Working pressure by rules *103 lb* Material of Front plates at bottom *Steel*

Thickness *3/4"* Material of Lower back plate *Steel* Thickness *3/4"* Greatest pitch of stays *8 x 8"* Working pressure of plate by rules *303 lb*

Diameter of tubes *3 1/4"* Pitch of tubes *4 1/2"* Material of tube plates *Steel* Thickness: Front *3/4"* Back *5/8"* Mean pitch of stays *9 x 9"*

Pitch across wide water spaces ☒ Working pressures by rules *248 lb* Girders to Chamber tops: Material ☒ Depth and

thickness of girder at centre ☒ Length as per rule ☒ Distance apart ☒ Number and pitch of Stays in each ☒

Working pressure by rules ☒ Superheater or Steam chest; how connected to boiler *S. R. flange* Can the superheater be shut off and the boiler worked

separately ☒ Diameter *2.0* Length *2.0* Thickness of shell plates *3/8"* Material *Steel* Description of longitudinal joint *D. R. lap* Diam. of rivet

holes *11/16"* Pitch of rivets *2 1/4"* Working pressure of shell by rules *212 lb* Diameter of flue ☒ Material of flue plates ☒ Thickness ☒

If stiffened with rings ☒ Distance between rings ☒ Working pressure by rules *110 lb* End plates: Thickness *3/4"* How stayed *dished*

Working pressure of end plates *100 lb* Area of safety valves to superheater ☒ Are they fitted with easing gear ☒

If not, state whether and when Report also sent on the Hull of the Ship?

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Lloyd's Register
Foundation

4B/VII-0093

4494 ABW

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 _____ Description of safety valves _____
No. of safety valves _____ Area of each _____ Pressure to which they are adjusted _____ If fitted with easing gear _____ If steam from main boilers can
enter the donkey boiler _____ Diameter of donkey boiler _____ Length _____ Material of shell plates _____ Thickness _____
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 _____ Rivets _____ Thickness of shell crown plates _____ Radius of do. _____ No. of Stays to do. _____
Dia. of stays _____ Diameter of furnace Top _____ Bottom _____ Length of furnace _____ Thickness of furnace 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 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 boiler of this vessel has been constructed under Special Survey in accordance with the Rules and the approved tracing. The material and workmanship are good. The vessel has been placed on the slipway of Messrs. J. Guthrie, Sons & Co. and the propeller, Sternbush, sea-cocks and fastenings examined. The tail shaft found considerably corroded a new end has been welded on the shaft. In addition to the hold suction; a bilge suction to the engine room, and also a bilge injection has now been fitted. The Engines opened up and the crank shaft found defective a new crank shaft has been fitted. The L. P. packing ring and spring found broken have been renewed. The Engines and boiler of this vessel are now in good working condition and eligible in my opinion to receive the notification of L M C 12.92 & N B 12.92

It is submitted that
this vessel is eligible for
THE RECORD

LM.C. 12-92 & + NB 12-92

On acct. of a new main boiler, and crank shaft
we will, and a few repairs were effected to the machinery.

M.A.
22-12-92

Certificate (if required) to be sent to _____

The amount of Entry Fee... £ : : When applied for,
Special { *Hall Russell & Co* 3 : 3 : Dec. 20, 1892
 { *H. R. Aiken* 3 : 3 : £3.5 paid 24/12/92.
Donkey Boiler Fee .. £ : : When received,
Travelling Expenses (if any) £ ✓ : : £3.5 22.12.92

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

Committee's Minute **FRI 23 DEC 1892**

TUES. 31 JAN 1893

Assigned

L M C 12.92
+ N B 12.92



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