

REPORT ON MACHINERY.

No. 13160

MO 13 SEP 1894

Port of *Glasgow*
 No. in Survey held at *Glasgow* Date, first Survey *19th June* Last Survey *28th Aug^r 1894*
 Reg. Book. *Stul Se. Sh. "Amelia"* (Number of Visits *13*)
 on the *Stul Se. Sh. "Amelia"* Tons *354*
 Master *J. Bamant* Built at *Ayr* By whom built *S. McNaught & Co.* When built *1894*
 Engines made at *Glasgow* By whom made *Muir & Houston* when made *1894*
 Boilers made at *do.* By whom made *do.* when made *1894*
 Registered Horse Power *69* Owners *Henry Newhouse* Port belonging to *Great Yarmouth*
 Nom. Horse Power as per Section 28

ENGINES, &c.— Description of Engines *Compound Inverted* No. of Cylinders *two*
 Diameter of Cylinders *19" & 14 1/2"* Length of Stroke *30"* Revolutions per minute *105* Diameter of Screw shaft *as per rule 8.15"*
 Diameter of Tunnel shaft *as fitted 7 3/8"* Diameter of Crank shaft journals *8 1/4"* Diameter of Crank pin *8 1/4"* Size of Crank webs *1 1/4" x 5 1/2"*
 Diameter of screw *9'-0"* Pitch of screw *12'-6"* No. of blades *4* State whether moveable *No* Total surface *26 sq. ft.*
 No. of Feed pumps *1* Diameter of ditto *2 1/2"* Stroke *14 1/2"* Can one be overhauled while the other is at work *✓*
 No. of Bilge pumps *1* Diameter of ditto *3"* Stroke *14 1/2"* Can one be overhauled while the other is at work *✓*
 No. of Donkey Engines *1* Sizes of Pumps *6" x 4" x 6"* No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room *4 to donkey 3 to bilge pump 2 1/2"* In Holds, &c. *4 from fore tanks 2 1/2" one from peak 2"*
1 from after peak 2". two hold suction 2"
 No. of bilge injections *1* sizes *3"* Connected to condenser, or to circulating pump *Pump* Is a separate donkey suction fitted in Engine room & size *Yes 2 1/2"*
 Are all the bilge suction pipes fitted with roses *Yes* Are the roses in Engine room always accessible *Yes* Are the sluices on Engine room bulkheads always accessible *Yes*
 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 *All forward suction to hold tank* How are they protected *Wood ceiling*
 Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times *Yes*
 Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges *Yes*
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock *on stocks* Is the screw shaft tunnel watertight *Yes*
 Is it fitted with a watertight door *Yes* worked from *deck*

BOILERS, &c.— (Letter for record *S*) Total Heating Surface of Boilers *1220 sq. ft.*
 No. and Description of Boilers *One Cylindrical Multitubular* Working Pressure *130 lbs* Tested by hydraulic pressure to *260 lbs*
 Date of test *30/8/94* Can each boiler be worked separately *✓* Area of fire grate in each boiler *51 1/2 sq. ft.* No. and Description of safety valves to
 each boiler *2 direct spring (E. Peckhams)* Area of each valve *70 sq. in.* Pressure to which they are adjusted *130 lbs* Are they fitted
 with easing gear *Yes* Smallest distance between boilers or uptakes and bunkers or woodwork *4 in to ship's side* Mean diameter of boilers *12'-6"*
 Length *10'-0"* Material of shell plates *Stul* Thickness *1"* Description of riveting: circum. seams *Lap d. r.* long. seams *Butt 3 riv.*
 Diameter of rivet holes in long. seams *1 1/8"* Pitch of rivets *4"* Lap of plates or width of butt straps *16 1/2"*
 Per centages of strength of longitudinal joint *95.7%* Working pressure of shell by rules *156 lbs.* Size of manhole in shell *16" x 12"*
 Size of compensating ring *McNails* No. and Description of Furnaces in each boiler *3 plain* Material *Stul* Outside diameter *39"*
 Length of plain part *top 3'-6" bottom 3'-6"* Thickness of plates *crown 9/16" bottom 9/16"* Description of longitudinal joint *Welded* No. of strengthening rings *1 Adams*
 Working pressure of furnace by the rules *207 lbs* Combustion chamber plates: Material *Stul* Thickness: Sides *7/32"* Back *7/32"* Top *7/32"* Bottom *3/4"*
 Pitch of stays to ditto: Sides *8" x 8"* Back *8" x 8"* Top *8" x 7"* If stays are fitted with nuts or riveted heads *Nuts* Working pressure by rules *135 lbs.*
 Material of stays *Stul* Area at smallest part *1.194* Area supported by each stay *64 sq. in.* Working pressure by rules *149 lbs.* End plates in steam space:
 Material *Stul* Thickness *3/32"* Pitch of stays *14" x 14"* How are stays secured *d. nuts & washers* Working pressure by rules *172 lbs.* Material of stays *Stul*
 Area at smallest part *3.49* Area supported by each stay *196 sq. in.* Working pressure by rules *160 lbs.* Material of Front plates at bottom *Stul*
 Thickness *25/32"* Material of Lower back plate *Stul* Thickness *3/4"* Greatest pitch of stays *14"* Working pressure of plate by rules *146 & 135 lbs*
 Diameter of tubes *3 1/2"* Pitch of tubes *4 3/4" x 4 7/8"* Material of tube plates *Stul* Thickness: Front *25/32"* Back *25/32"* Mean pitch of stays *9 5/8"*
 Pitch across wide water spaces *14" x 12 1/8"* Working pressures by rules *146 lbs.* Girders to Chamber tops: Material *Iron* Depth and
 thickness of girder at centre *7 1/4" x 1 1/2"* Length as per rule *28'* Distance apart *4"* Number and pitch of Stays in each *Three 8"*
 Working pressure by rules *137 lbs.* Superheater or Steam chest; how connected to boiler *None* 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 *✓*

Is a Report also sent on the Hull of the ship?

[142.—L.R.P.H.—5,000.—Form No. 8. 4-2-92.—Copyright 1894.]

GLS170-0264

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13160 lbs.

DONKEY BOILER— Description *Vertical, two cross tubes.*
Made at *Glasgow* By whom made *Marriott & Graham* When made *1894* Where fixed *in stowhold*
Working pressure *150 lbs* tested by hydraulic pressure to *260 lbs* No. of Certificate *3670* Fire grate area *118 sq ft* Description of safety valves *direct spring*
No. of safety valves *1* Area of each *707 in²* Pressure to which they are adjusted *150 lbs* If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *No* Diameter of donkey boiler *4'-5"* Length *8'-8"* Material of shell plates *Steel* Thickness *2 1/4"*
Description of riveting long. seams *lap d. rivets* Diameter of rivet holes *1 3/16"* Whether punched or drilled *drilled* Pitch of rivets *2 3/4"*
Lap of plating *4"* Per centage of strength of joint *73 7/8%* Thickness of shell crown plates *5/8"* Radius of do. *5'-0"* No. of Stays to do. *5*
No. of stays *2-663 sq in* Diameter of furnace Top *40"* Bottom *45"* Length of furnace *4'-0"* Thickness of furnace plates *5/8"* Description of joint *lap d. r.* Thickness of furnace crown plates *5/8"* Stayed by *5-2" vertical stays* Working pressure of shell by rules *129 lbs*
Working pressure of furnace by rules *129 lbs* Diameter of uptake *10"* Thickness of uptake plates *1/2"* Thickness of water tubes *3/8"*
With 2 rows of 1 1/8" screw stays 10 x 10" pitch on fire box

SPARE GEAR. State the articles supplied:— *Two top & bottom end connecting rod bolts, 2 main bearing bolts, 1 set of coupling bolts, 1 set of feed & bilge pump valves, 1 set piston springs, nuts bolts & iron assorted.*

The foregoing is a correct description,
Manufacturer. *Muir & Houston*

General Remarks (State quality of workmanship, opinions as to class, &c.) *The machinery & boilers of this vessel have been constructed under special survey. They have been well fitted on board, steam has been raised on the main ~~donkey~~ boiler the safety valves adjusted to the correct working pressure & the engines tried under steam, the materials & workmanship throughout are of good description & in our opinion eligible to have notification L.M.C. & 94 **

A tracing of the boiler & 1 forging reports on appen -

* Subject to the Safety Valve of Donkey Boiler being adjusted under steam at Hull whence the vessel has proceeded, & the Hull Surveyors have been advised

[Large blue ink signature]

Certificate (if required) to be sent to *Glasgow*
The amount of Entry Fee.. £ *1* : " : " When applied for, *31/8 94*
Special £ *10* : *4* : " *31/8 94*
Donkey Boiler Fee £ " : " : " When received, *31/8 94*
Travelling Expenses (if any) £ " : *10* : " *31/8 94*
Alex^r Kidd & M. McLeod
Engineer Surveyors to Lloyd's Register of British & Foreign Shipping.

Committee's Minute *TUES. 4 SEP 1894* *FRIDAY 7 SEP 1894*
Assigned *Deferred* *+ 2 me 8 94*
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