

REPORT ON MACHINERY.

No. 13269
1129

Port of *Glasgow*

TUES. 6 NOV 1894

Received at London Office

No. in Survey held at
Reg. Book.

Glasgow

Date, first Survey *30th July*

Last Survey *29th Oct^r 1894*

on the

S.S. Bessie Barr

Number of Visits

Gross *407*
Tons Net *163*

aster

Built at *Port Glasgow*

By whom built

Murdoch & Murray

When built *1894-10*

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

X

Owners

R.B. Ballantyne & Co.

Port belonging to

Glasgow

Nom. Horse Power as per Section 28 *75*

ENGINES, &c.— Description of Engines *Triple Expansion* No. of Cylinders *three*
Diameter of Cylinders *13" x 21 1/2" x 34"* Length of Stroke *27"* Revolutions per minute *99* Diameter of Screw shaft *as per rule 6 1/2"*
Diameter of Tunnel shaft *as per rule 6 3/4"* Diameter of Crank shaft journals *7"* Diameter of Crank pin *7"* Size of Crank webs *1-1 1/2" x 10" x 5"*
Diameter of screw *9'-0"* Pitch of screw *13'-0"* 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 *13 1/2"* Can one be overhauled while the other is at work *✓*
No. of Bilge pumps *1* Diameter of ditto *3"* Stroke *13 1/2"* Can one be overhauled while the other is at work *✓*
No. of Donkey Engines *Two* Sizes of Pumps *5 1/2" x 3 1/2" x 5" 2" x 4" x 4"* No. and size of Suctions connected to both Bilge and Donkey pumps
Engine Room *Two 2 1/2" forward & one 2 1/2" aft* In Holds, &c. *Four 2 1/2" forward.*
No. of bilge injections *1* sizes *3"* Connected to condenser, or to circulating pump *Co. Pumps* a separate donkey suction fitted in Engine room & size *yes 2 1/2"*
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*
all connections with the sea direct on the skin of the ship *yes* Are they Valves or Cocks *both*
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*
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*
that pipes are carried through the bunkers *none* How are they protected
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*
were stern tube, propeller, screw shaft, and all connections examined in dry dock *before launching* Is the screw shaft tunnel watertight *none*
fitted with a watertight door worked from

BOILERS, &c.— (Letter for record *S*) Total Heating Surface of Boilers *1013 sq. ft.*
No. and Description of Boilers *One Cylindrical Multitubular* Working Pressure *160 lbs* Tested by hydraulic pressure to *320 lbs*
Date of test *11/10/94* Can each boiler be worked separately *✓* Area of fire grate in each boiler *49 sq. ft* No. and Description of safety valves to
each boiler *Two direct spring* Area of each valve *4.9"* 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 *22"* Mean diameter of boilers *12'-3"*
Length *9'-6"* Material of shell plates *Steel* Thickness *1"* Description of riveting: circum. seams *Lap Single* long. seams *Double Butt, Keble*
Diameter of rivet holes in long. seams *1 1/4"* Pitch of rivets *7 1/4"* Lap of plates or width of butt straps *17"*
Per centages of strength of longitudinal joint *107* Working pressure of shell by rules *161 lbs* Size of manhole in shell *16" x 12"*
Size of compensating ring *No. 10's* No. and Description of Furnaces in each boiler *2 Plain* Material *Steel* Outside diameter *37"*
Length of plain part *6'-0"* Thickness of plates *1 1/2"* Description of longitudinal joint *Double Butt* No. of strengthening rings *—*
Working pressure of furnace by the rules *190 lbs* Combustion chamber plates: Material *Steel* Thickness: Sides *9 1/16"* Back *9 1/16"* Top *9 1/16"* Bottom *3 1/4"*
Pitch of stays to ditto: Sides *8 1/4" x 8 1/4"* Back *8 1/4" x 8 1/4"* Top *8 1/4" x 7 1/4"* If stays are fitted with nuts or riveted heads *Nuts* Working pressure by rules *161 lbs*
Material of stays *Steel* Diameter at smallest part *1.447* Area supported by each stay *68"* Working pressure by rules *17 1/16 lbs* End plates in steam space:
Material *Steel* Thickness *7 1/8"* Pitch of stays *14 1/2" x 14"* How are stays secured *d. nuts & washers* Working pressure by rules *17 1/2 lbs* Material of stays *Steel*
Diameter at smallest part *1.436* Area supported by each stay *20 1/4"* Working pressure by rules *19 1/4 lbs* Material of Front plates at bottom *Steel*
Thickness *3 1/4"* Material of Lower back plate *Steel* Thickness *3 1/4"* Greatest pitch of stays *14 1/2"* Working pressure of plate by rules *255 lbs*
Diameter of tubes *3 1/2"* Pitch of tubes *14 1/4" x 4 3/4"* Material of tube plates *Steel* Thickness: Front *3 1/4"* Back *3 1/4"* Mean pitch of stays *9 1/2"*
Pitch across wide water spaces *14 1/2" x 12"* Working pressures by rules *285 lbs & 212 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 1/2"* Distance apart *7 1/4"* Number and pitch of Stays in each *Two 8 1/4"*
Working pressure by rules *170 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
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

GR4329-0130

Lloyd's Register
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DONKEY BOILER— Description *Vertical Cross tube*
 Made at *Glasgow* By whom made *Muir & Houston* When made *1894* Where fixed *On deck*
 Working pressure *70 lbs.* tested by hydraulic pressure to *140 lbs.* No. of Certificate *3690* Fire grate area *12 1/2* Description of safety valves *Direct spring*
 No. of safety valves *1* Area of each *5.93* Pressure to which they are adjusted *70 lbs.* If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no* Diameter of donkey boiler *4' 7 1/2"* Length *9' 6"* Material of shell plates *Steel* Thickness *3/8"*
 Description of riveting long. seams *Lap d. rivetted* Diameter of rivet holes *15/16"* Whether punched or drilled *drilled* Pitch of rivets *3 1/4"*
 Lap of plating *5"* Per centage of strength of joint *Rivets 93.5% Plates 71.7%* Thickness of shell crown plates *1/2"* Radius of do. *4' 6"* No. of Stays to do. *4*
 Dia. of stays *1 1/2"* Diameter of furnace Top *3' 5 1/2"* Bottom *4' 3"* Length of furnace *4' 0"* Thickness of furnace plates *7/16"* Description of joint *Lap d. riv.* Thickness of furnace crown plates *1/2"* Stayed by *Four 1 1/2" stays* Working pressure of shell by rules *94 lbs.*
 Working pressure of furnace by rules *73 lbs.* Diameter of uptake *10"* Thickness of uptake plates *7/16"* Thickness of water tubes *3/8"*
 SPARE GEAR. State the articles supplied:— *as required by the rules.*

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

General Remarks (State quality of workmanship, opinions as to class, &c. *Engines & Boilers. Particulars*
of which are given on the other side & above have been constructed under special survey. Materials & workmanship are of good description. They have been well fitted on board & satisfactorily tried under steam & in our opinion are eligible to have notification + L.M.C. 10. 94.

1 Photo Boiler print & 3 Forging Report hereto attached.

It is submitted that
 this vessel is eligible for
 THE RECORD + L.M.C. 10. 94

*subject to the
 slide valve on the fore bulkhead of the Machinery
 space being made easily accessible. The Surveyors
 have not answered the above question in the
 report.*

*W.A.
 6-11-94*

Certificate (if required) to be sent to

The amount of Entry Fee. . . £ *1* : *0* : *0* When applied for, *2/11/94*
 Special £ *11* : *5* : *0*
 Donkey Boiler Fee £ *"* : *"* : *"* When received, *5/11/94*
 Travelling Expenses (if any) £ *"* : *"* : *"*

Alex. Kidd, A.M. Reed
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

TUES. 6 NOV 1894

MACHINERY CERTIFICATE
 WRITTEN.

Assigned

+ L.M.C. 10. 94



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