

REPORT ON MACHINERY.

No. 13442

SAT. 16 FEB 1895

Port of Glasgow

Received at London Office

No. in Survey held at Reg. Book.

Glasgow

Date, first Survey 11 Oct 1894 Last Survey 11 Feb 1895

(Number of Visits 23)

16 on the screw steamer "Eilanreach"

Master Robert McPhail Built at Ayr By whom built S. McTear & Co. When built 1895

Engines made at Glasgow By whom made Muir & Houston when made 1895

Boilers made at do. By whom made do. when made 1895

Registered Horse Power 47 Owners Master of Blantyre Port belonging to Glasgow

Nom. Horse Power as per Section 28

ENGINES, &c.— Description of Engines *Compound inverted* No. of Cylinders *2*

Diameter of Cylinders *16" & 34"* Length of Stroke *24"* Revolutions per minute *120* Diameter of Screw shaft *as per rule 6.64"*

Diameter of Tunnel shaft *as per rule 6.35"* Diameter of Crank shaft journals *6 3/4"* Diameter of Crank pin *6 3/4"* Size of Crank webs *12 1/2" x 10" x 4 1/2"*

Diameter of screw *8'-0"* Pitch of screw *10'-0"* No. of blades *4* State whether moveable *No* Total surface *20.5 sq ft*

No. of Feed pumps *1* Diameter of ditto *2 1/2"* Stroke *12"* Can one be overhauled while the other is at work *—*

No. of Bilge pumps *1* Diameter of ditto *2 1/2"* Stroke *12"* Can one be overhauled while the other is at work *—*

No. of Donkey Engines *1* Sizes of Pumps *4 1/2" x 2 3/4" x 4"* No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room *two 2"* In Holds, &c. *two 2" in tunnel, one 2" in*

Storehold, one 2" in tank

No. of bilge injections *1* sizes *2 3/4"* Connected to condenser, or to circulating pump *Pumps a separate donkey suction fitted in Engine room & size Yes 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 *None* How are they protected

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 *before launching* 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 *9000 sq ft.*

No. and Description of Boilers *One Cylindrical Return tube* Working Pressure *130 lbs* Tested by hydraulic pressure to *260 lbs*

Date of test *20/12/94* Can each boiler be worked separately *✓* Area of fire grate in each boiler *35 1/2 sq ft* No. and Description of safety valves to each boiler *2 - 2 1/2" direct spring* Area of each valve *4.9 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 *11"* Mean diameter of boilers *11'-0"*

Length *9'-6"* Material of shell plates *Steel* Thickness *7/8"* Description of riveting: circum. seams *Lap d.r.* long. seams *double 3 riv.*

Diameter of rivet holes in long. seams *1 1/2"* Pitch of rivets *5 1/2"* Lap of plates or width of butt straps *16 1/2"*

Per centages of strength of longitudinal joint *80-77%* Working pressure of shell by rules *160 lbs.* Size of manhole in shell *16" x 12"*

Size of compensating ring *2 1/2" Nuts* No. and Description of Furnaces in each boiler *2 Plain* Material *Steel* Outside diameter *40"*

Length of plain part *6'-0"* Thickness of plates *3/8"* Description of longitudinal joint *weld* No. of strengthening rings *Half iron*

Working pressure of furnace by the rules *146 lbs* Combustion chamber plates: Material *Steel* Thickness: Sides *1/2"* Back *1/2"* Top *1/2"* Bottom *3/4"*

Pitch of stays to ditto: Sides *6 1/2" x 7 1/2"* Back *7 1/2" x 7 1/2"* Top *6 1/2" x 7"* If stays are fitted with nuts or riveted heads *Nuts* Working pressure by rules *137 lbs*

Material of stays *Steel* Diameter at smallest part *9.64"* Area supported by each stay *56 sq in* Working pressure by rules *137 lbs* End plates in steam space:

Material *Steel* Thickness *7/8"* Pitch of stays *15" x 14"* How are stays secured *with nuts* Working pressure by rules *161 lbs* Material of stays *Steel*

Diameter at smallest part *3.49"* Area supported by each stay *240 sq in* Working pressure by rules *131 lbs* Material of Front plates at bottom *Steel*

Thickness *3/4"* Material of Lower back plate *Steel* Thickness *3/4"* Greatest pitch of stays *14"* Working pressure of plate by rules *195 lbs*

Diameter of tubes *3 1/2"* Pitch of tubes *4 1/2" x 4 1/4"* Material of tube plates *Steel* Thickness: Front *3/4"* Back *3/4"* Mean pitch of stays *12"*

Pitch across wide water spaces *14"* Working pressures by rules *140, 166 lbs* Girders to Chamber tops: Material *Iron* Depth and thickness of girder at centre *6 1/2" x 3/4"* Length as per rule *28"* Distance apart *4"* Number and pitch of Stays in each *3 - 6 1/2"*

Working pressure by rules *135 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

If not, state whether and when, one will be sent. In a separate return.

GLS 171-0251

Lloyd's Register Foundation

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DONKEY BOILER— Description *None*

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:— *as per rule requirements.*

The foregoing is a correct description,
Wm Houston Manufacturer.

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

Boilers have been constructed under special survey, are of good material & workmanship & have been well finished & fitted on board the vessel. The machinery has been tried under steam when everything worked well. The Safety Valves have been adjusted to a safe working pressure under steam.

*In my opinion the above machinery is eligible to be classed in the Society's Register Book & to have the record of **+LMC 2,95.***

1 Boiler tracing & 2 Forging reports hereto attached.

Wm Houston

It is submitted that this vessel is eligible for THE RECORD **+LMC 2-95**

M.A. 16-2-95

Certificate (if required) to be sent to *Glasgow*

The amount of Entry Fee..	£ 1	:	"	:	When applied for,
Special	£ 8	:	"	:	13/2/95
Donkey Boiler Fee .. .	£ "	:	"	:	When received,
Travelling Expenses (if any)	£ "	:	"	:	14/2/95

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

Committee's Minute **TUES 19 FEB 1895**
Assigned **+LMC 2,95**



(The Surveys are requested not to write on or below the space for Committee's Minutes.)