

REPORT ON MACHINERY.

Port of *Glasgow*

Received at London Office

THUR. 12 APR 1900

No. in Survey held at *Glasgow North Dock* Date first Survey *1 August 1899* Last Survey *28 April 1900*
 Reg. Book. on the *S. S. "Lamandua"* (Number of Visits *47*)
 Master Built at *Port Glasgow* By whom built *Murdock & Murray* When built *1900*
 Engines made at *Glasgow* By whom made *Lees Anderson & Co* when made *1900*
 Boilers made at *"* By whom made *"* when made *1900*
 Registered Horse Power *52* Owners *J. A. Correa & Co* Port belonging to *Para*
 Nom. Horse Power as per Section 28 *52* Is Refrigerating Machinery fitted *No* Is Electric Light fitted *Yes by Handrow*

ENGINES, &c.—Description of Engines *Compound* No. of Cylinders *2* No. of Cranks *2*
 Dia. of Cylinders *Two 16 1/2 x 32* Length of Stroke *24* Revs. per minute *120* Dia. of Screw shaft *as per rule 6 3/4 x .82*
 Dia. of Tunnel shaft *as per rule 6 3/4* Dia. of Crank shaft journals *as per rule 6 3/4* Dia. of Crank pin *6 3/4* Size of Crank webs *as fitted 4 1/2* Dia. of thrust shaft under
 collars *6 3/4* Dia. of screw *6 x 9* Pitch of screw *10 ft* No. of blades *4* State whether moveable *Yes* Total surface *22 ft²*
 No. of Feed pumps *One* Diameter of ditto *3"* Stroke *10"* Can one be overhauled while the other is at work *Yes*
 No. of Bilge pumps *One* Diameter of ditto *3"* Stroke *10"* Can one be overhauled while the other is at work *Yes*
 No. of Donkey Engines *One duplex* Sizes of Pumps *4 x 2 3/4 x 5* No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room *4 - 2" suctions* In Holds, &c. *2 in each + 1 in Tunnel well*
 No. of bilge injections *One* sizes *3"* Connected to *condenser* circulating pump *Yes* Is 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 *near to*
 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 *Bilge pipes to fore hold* How are they protected *by wood casing*
 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 *Apparently*
 Is it fitted with a watertight door *Yes* worked from *Upper platform*

BOILERS, &c.— (Letter for record *Letter for record*) Total Heating Surface of Boilers *935 ft²* Is forced draft fitted *No*
 No. and Description of Boilers *Single tubular* Working Pressure *120 lbs* Tested by hydraulic pressure to *240 lbs*
 Date of test *4/3/1900* Can each boiler be worked separately *Yes* Area of fire grate in each boiler *34 ft²* No. and Description of safety valves to
 each boiler *2 Direct Spring* Area of each valve *4 x 9 1/2* Pressure to which they are adjusted *125 lbs* Are they fitted with easing gear *Yes*
 Smallest distance between boilers or uptakes and bunkers or woodwork *10"* Mean dia. of boilers *11 ft* Length *9 ft 6"* Material of shell plates *Steel*
 Thickness *2 5/16"* Range of tensile strength *32 tons* Are they welded or flanged *Welded* Descrip. of riveting: cir. seams *Single* long. seams *Double*
 Diameter of rivet holes in long. seams *1 1/16"* Pitch of rivets *4 3/8"* Lap of plates or width of butt straps *11 x 2 5/16 x 1 1/16"*
 Percentages of strength of longitudinal joint *46%* Working pressure of shell by rules *127 lbs* Size of manhole in shell *16 x 12"*
 Size of compensating ring *Wheels ring* and Description of Furnaces in each boiler *2 Plain* Material *Steel* Outside diameter *8'-6"*
 Length of plain part *6'-6"* Thickness of plates *19/32"* Description of longitudinal joint *Weld* No. of strengthening rings *Yes*
 Working pressure of furnace by the rules *126 lbs* Combustion chamber plates: Material *Steel* Thickness: Sides *7/16"* Back *7/16"* Top *7/16"* Bottom *7/16"*
 Pitch of stays to ditto: Sides *8 x 8"* Back *8 x 8"* Top *8 x 4 1/2"* If stays are fitted with nuts or riveted heads *Nuts* Working pressure by rules *120 lbs*
 Material of stays *Steel* Diameter at smallest part *99"* Area supported by each stay *64"* Working pressure by rules *123 lbs* and plates in steam space:
 Material *Steel* Thickness *2 5/16"* Pitch of stays *14 1/4 x 14 1/2"* How are stays secured *Double nuts* Working pressure by rules *133 lbs* Material of stays *Steel*
 Diameter at smallest part *2 5/8"* Area supported by each stay *214"* Working pressure by rules *136 lbs* Material of Front plates at bottom *Steel*
 Thickness *1 1/16"* Material of Lower back plate *Steel* Thickness *2 5/16"* Greatest pitch of stays *12 3/4"* Working pressure of plate by rules *186 lbs*
 Diameter of tubes *3 1/4"* Pitch of tubes *4 1/2 x 4 1/2"* Material of tube plates *Steel* Thickness: Front *2 5/16"* Back *2 5/16"* Mean pitch of stays *11 1/2"*
 Pitch across wide water spaces *13 3/4"* Working pressures by rules *123 lbs* Girders to Chamber tops: Material *Steel* Depth and
 Thickness of girder at centre *6 1/2 x 19 1/16 (2)* Length as per rule *2'-3"* Distance apart *4 1/2"* Number and pitch of Stays in each *2'-8"*
 Working pressure by rules *183 lbs* Superheater or Steam chest; how connected to boiler *Yes* Can the superheater be shut off and the boiler worked
 separately *Yes* Diameter *Yes* Length *Yes* Thickness of shell plates *Yes* Material *Yes* Description of longitudinal joint *Yes* Diam. of rivet
 holes *Yes* Pitch of rivets *Yes* Working pressure of shell by rules *Yes* Diameter of flue *Yes* Material of flue plates *Yes* Thickness *Yes*
 If stiffened with rings *Yes* Distance between rings *Yes* Working pressure by rules *Yes* End plates: Thickness *Yes* How stayed *Yes*
 Working pressure of end plates *Yes* Area of safety valves to superheater *Yes* Are they fitted with easing gear *Yes*

DONKEY BOILER— No. *One* Description *Multitubular*
Made at *Glasgow* By whom made *Lees Anderson & Co* When made *1900* Where fixed *On Deck*
Working pressure *120 lbs* tested by hydraulic pressure to *240 lbs* No. of Certificate *5444* Fire grate area *6.48* Description of safety valves *Direct Spring*
No. of safety valves *2* Area of each *3.14* Pressure to which they are adjusted *120 lbs* fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *No* Dia. of donkey boiler *5 ft* Length *5.6* Material of shell plates *Steel* Thickness *29* Range of tensile strength *32 tons* Description of riveting long seams *Lap double row* Dia. of rivet holes *9/16* Whether punched or drilled *Drilled* Pitch of rivets *2 3/4*
Lap of plating *3 3/8* Per centage of strength of joint Rivets *68* Thickness of *end* *10 1/16* Radius of do. *—* No. of Stays to do. *3*
Dia. of stays *1 3/4* Description of furnace *No 2* Diameter of furnace *2 1/2* Bottom *—* Length of furnace *8.6* Thickness of furnace plates *6 1/16* Description of joint *beld* Thickness of furnace *man* plates *8 1/16* Stayed by *Screw Stays* *Radius 4 1/4* Working pressure of shell by rules *120*
Working pressure of furnace by rules *122 lbs* Diameter of *tubes 2 1/2* Thickness of *plate* plates *10 1/16* Thickness of water tubes *—*

SPARE GEAR. State the articles supplied:— *3 propellers, blades, 2 crank pin + 2 crosshead bolts, 2 top + bottom end bolts, 2 holding down bolts, 2 main bearing bolts, pump valves, assortment of bolts nuts &c.*

The foregoing is a correct description,

Manufacturer.

Lees Anderson & Co

Dates { During progress of work in shops— 1899. Aug. 7, 10, 14, 18, 22. Sept. 12, 14, 21, Oct. 5, 9, 10, 12, 26, 31. Nov. 4, 7, 10, 16, 16, 21, 24.
of Survey { During erection on board vessel— Dec. 14, 18, 22, 26, 1900. Jan. 9, 14, 21, 27, Feb. 1, 10, Crank shaft forging Report
while building { Total No. of visits 47
Is the approved plan of main boiler forwarded herewith *Yes*
" " " donkey " " *Yes*

General Remarks (State quality of workmanship, opinions as to class, &c.) *These Engines & Boilers are of good materials & workmanship and are now in good order & safe working condition & eligible for opinion to be noted in the Register Book. Lloyds M.C. 4/1900*

It is submitted that this vessel is eligible for THE RECORD. LMC 4.00

dec. light

C.M. 12.4.00

RS 12.4.00

The amount of Entry Fee. £ 1 : : When applied for, 3/4/1900.
Special £ 8 : :
Donkey Boiler Fee £ : :
Travelling Expenses (if any) £ : : When received, 5/4/1900.

Committee's Minute

THUR. 12 APR 1900

Assigned

+ 2 M C 4.00

James Hollison
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping
Clyde District

Lloyd's Register Foundation