

## REPORT ON MACHINERY.

No. 23350

Port of

Glasgow

Received at London Office

JUN. 12 DEC 1905

No. in Survey held at  
Reg. Book.

Glasgow

Date, first Survey

29<sup>th</sup> May

Last Survey

4 Dec 1905

(Number of Visits)

on the

S. S. Lornmaline

Master

Built at

Glasgow

By whom built

Mackie &amp; Thompson

Tons

Gross

Net

When built 1905

Engines made at

Boothbridge

By whom made

W. &amp; V. Lugginswood

when made

1905

Boilers made at

Glasgow

By whom made

Finlay Burnett

when made

1905

Registered Horse Power

Owners

Port belonging to

Dull

Nom. Horse Power as per Section 28

88

Is Refrigerating Machinery fitted

No

Is Electric Light fitted

No

## ENGINES, &amp;c.

Description of Engines

Triple expansion

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

X2-22-37

Length of Stroke

27

Revs. per minute

Dia. of Screw shaft

as per rule 7.8

Material of

Steel

Is the screw shaft fitted with a continuous liner the whole length of the stern tube

Yes

Is the after end of the liner made water tight

in the propeller boss Yes If the liner is in more than one length are the joints burned

If the liner does not fit tightly at the part

between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive

If two

liners are fitted, is the shaft lapped for protected between the liners

Length of stern bush

3'-6"

Dia. of Tunnel shaft

as per rule 6.8

Dia. of Crank shaft journals

as per rule 7.8

Dia. of Crank pin

7.5/8

Size of Crank webs

14 1/2 x 5

Dia. of thrust shaft under

collars

7.5/8

Dia. of screw

9'-8"

Pitch of screw

12'-6"

No. of blades

4

State whether moveable

No

No. of Feed pumps

1

Diameter of ditto

3"

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

1

Sizes of Pumps

3 1/2 x 6 x 6

No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room

2-2"

In Holds, &amp;c.

4-2"

No. of bilge injections

1

sizes

3 1/2"

Connected to condenser, or to circulating pump

Land

Is a separate donkey suction fitted in Engine room &amp; size

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

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

4 2"

How are they protected

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

Is the screw shaft tunnel watertight

Is it fitted with a watertight door

worked from

## BOILERS, &amp;c.

(Letter for record

S)

Total Heating Surface of Boilers

1460 sq

Is forced draft fitted

No

No. and Description of Boilers

138 Multitubular

Working Pressure

200 lbs

Tested by hydraulic pressure to

400 lbs

Date of test

4.11.05

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

44.3 sq

No. and Description of safety valves to

each boiler

2 Spring

Area of each valve

4.9 sq

Pressure to which they are adjusted

205 lbs

Are they fitted with easing gear

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

9"

Mean dia. of boilers

13'-1"

Length

10.6

Material of shell plates

Steel

Thickness

1 3/16

Range of tensile strength

28-32

Are they welded or flanged

No

Descrip. of riveting: cir. seams

Doub. Riv. long. seams

Yrb. riveted

Straps. 15"

Diameter of rivet holes in long. seams

1 1/4"

Pitch of rivets

8 7/8"

Lap of plates or width of butt straps

1' 6" x 1 1/8" x 15"

Per centages of strength of longitudinal joint

rivets 86.5%

Size of compensating ring

5 3/4 x 1 3/16

No. and Description of Furnaces in each boiler

Three, plain

Material

Steel

Outside diameter

37"

Length of plain part

top 7.6

Thickness of plates

crown 4.9/16"

Description of longitudinal joint

Welded

No. of strengthening rings

None

Working pressure of furnace by the rules

208

Combustion chamber plates: Material

Steel

Pitch of stays to ditto: Sides

8 3/4 x 8

Back

8 1/2 x 8 1/4

Top

8 3/4 x 8

If stays are fitted with nuts or riveted heads

Nuts

Working pressure by rules

206

Material of stays

Steel

Section Diameter at smallest part

1.42 Red. + top

Area supported by each stay

72.2"

Working pressure by rules

200 lb

End plates in steam space:

Material

Steel

Thickness

1 9/32

Pitch of stays

18 3/4 x 19

How are stays secured

Doub. nuts

Working pressure by rules

214 lb

Material of stays

Steel

Section Diameter at smallest part

8.11"

Area supported by each stay

356"

Working pressure by rules

227

Material of Front plates at bottom

Steel

Thickness

1"

Material of Lower back plate

Steel

Thickness

7/8"

Greatest pitch of stays

12 1/2 x 13

Working pressure of plate by rules

214

Diameter of tubes

3 1/2"

Pitch of tubes

4 3/4"

Material of tube plates

Steel

Pitch across wide water spaces

13 3/4"

Working pressures by rules

207 lb

Girders to Chamber tops: Material

Steel

Depth and

thickness of girder at centre

9 x 7 x 2

Length as per rule

34 1/2"

Working pressure by rules

256 lb

Superheater or Steam chest; how connected to boiler

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

Lloyd's Register

Foundation

002439-008445-0060



**DONKEY BOILER—** No. 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

Dia. of donkey boiler Length Material of shell plates Thickness Range of tensile strength

Descrip. of riveting long. seams Dia. of rivet holes Whether punched or drilled Pitch of rivets

Lap of plating Percentage 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:— 2. Lap end connecting rod bolts 2 ditto bottom end 2 Main bearing bolts 6 coupling bolts 4 valves for feed & discharge pumps Bolts & nuts assorted & spares as per rules

The foregoing is a correct description,  
for W V V Lidpurwalla Manufacturer.

Dates of Survey while building { During progress of work in shops - 1905: May 29. June 6. 14. July 12. Aug 11. 21. 29. Sep 19. 27. Oct 4. 16.  
During erection on board vessel - Nov 2. 3. 4. 7. 11. 15. 17. Dec 4.  
Total No. of s 19.

Is the approved plan of main boiler forwarded herewith Yes  
" " " donkey " " "

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

The Engines & boilers of this vessel have been constructed under special survey & the materials & workmanship are found to be good. The engines have been tried under steam & the safety valves have been adjusted to the working pressure. The Machinery is now in good & safe working condition & eligible in my opinion to have the notation of + L. M. C. 11.05 (in red) in the Register books.

It is submitted that this vessel is eligible for THE RECORD

L.M.C. 12.05

12.1.06

12.1.06

The amount of Entry Fee. £ 1 : : When applied for, 11 DEC 1905  
Special .. £ 10 : 4 :  
Donkey Boiler Fee .. £ : :  
Travelling Expenses (if any) £ : : When received, 30 DEC 1905

Glasgow 11 DEC 1905

Committee's Minute

Assigned

+ L.M.C. 12.05.

Eng. L. S. Houston  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



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MACHINERY CERTIFICATE  
WRITTEN 17.12.05