

REPORT ON MACHINERY.

No. 31197

Date of writing Report

19

When handed in at Local Office

9/3/12

Port of

Received at London Office

Glasgow

WED. MAR. 13. 1912

No. in Survey held at
Reg. Book.

Date, First Survey

1st June 1911

Last Survey

5th March 1912

on the

S/S 'Mascara'

(Number of Visits)

Master John Diamond

Built at

Glasgow

By whom built

Alpc Stephen Son Ld

Tons
Gross 4957
Net 3200
When built 1912

Engines made at

Glasgow

By whom made

Alpc Stephen Son Ld

when made 1912

Boilers made at

ditto

By whom made

ditto

when made 1912

Registered Horse Power

Owners

MacLay & Co

Port belonging to

Glasgow

Nom. Horse Power as per Section 28

425

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Yes

ENGINES, &c.—Description of Engines

Triple Expansion

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

25 - 41 - 64

Length of Stroke

51

Revs. per minute

86

Dia. of Screw shaft

as per rule 13.4

Material of

S

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 or protected between the liners

Length of stern bush

5 - 1 1/2

Dia. of Tunnel shaft

as per rule 12.79

Dia. of Crank shaft journals

as per rule 13.4

Dia. of Crank pin

13 1/2

Size of Crank webs

8 3/8 x 2 1/2

Dia. of thrust shaft under

collars

13 1/2

Dia. of screw

17-6

Pitch of Screw

16-6

No. of Blades

4

State whether moveable

Yes

Total surface

94.5

No. of Feed pumps

1

Diameter of ditto

4 1/2

Stroke

27

Can one be overhauled while the other is at work

No. of Bilge pumps

2

Diameter of ditto

4 1/2

Stroke

24

Can one be overhauled while the other is at work

No. of Donkey Engines

3

Sizes of Pumps

8" Bal 10" Jolly

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

In Engine Room

2. 3 1/2

In Holds, &c. 2. 3 1/2 in each hold - 1 - 2 1/2

No. of Bilge Injections

1

sizes

8

Connected to condenser or to circulating pump

Is a separate Donkey Suction fitted in Engine room & size

Yes 3 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

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

Dates of examination of completion of fitting of Sea Connections

5.2.12

of Stern Tube

5.2.12

Screw shaft and Propeller

5.2.12

Is the Screw Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from UER Platform

BOILERS, &c.—(Letter for record

S)

Manufacturers of Steel

Salvile

Total Heating Surface of Boilers

6144

Is Forced Draft fitted

Yes

No. and Description of Boilers

3 Single Ended

Working Pressure

175

Tested by hydraulic pressure to

350

Date of test

24.11.11

No. of Certificate

11294

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

50

No. and Description of Safety Valves to

each boiler

Double Spring

Area of each valve

70

Pressure to which they are adjusted

180

Are they fitted with easing gear

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

6 ft.

Mean dia. of boilers

13.9

Length

11-6

Material of shell plates

S

Thickness

13/32

Range of tensile strength

28-32

Are the shell plates welded or flanged

Yes

Descrip. of riveting: cir. seams

DR

long. seams

TR + DBS

Diameter of rivet holes in long. seams

1 1/8

Pitch of rivets

7 1/8

Lap of plates or width of butt straps

16 1/2

Per centages of strength of longitudinal joint

rivets 85.7

plate 85.83

Working pressure of shell by rules

179

Size of manhole in shell

16 x 12

Size of compensating ring

Plate flanged

No. and Description of Furnaces in each boiler

3 Corrugated

Material

S

Outside diameter

36

Length of plain part

top

bottom

Thickness of plates

crown 2 1/2

Description of longitudinal joint

weld

No. of strengthening rings

Yes

Working pressure of furnace by the rules

180

Combustion chamber plates: Material

S

Thickness: Sides

5/8

Back

5/8

Top

5/8 3/4

Bottom

1 1/16

Pitch of stays to ditto: Sides

9 x 8 1/2

Back

8 1/2 x 9

Top

9 x 8 1/2

If stays are fitted with nuts or riveted heads

Nuts

Working pressure by rules

178

Material of stays

S

Diameter at smallest part

1 7/8

Area supported by each stay

46.5

Working pressure by rules

184

End plates in steam space:

Material

S

Thickness

13/64

Pitch of stays

18 1/2 x 10 3/4

How are stays secured

DN

Working pressure by rules

182

Material of stays

S

Diameter at smallest part

6 6/8

Area supported by each stay

36.5

Working pressure by rules

188

Material of Front plates at bottom

S

Thickness

7/8 3/8

Material of Lower back plate

S

Thickness

2 1/32

Greatest pitch of stays

18

Working pressure of plate by rules

183

Diameter of tubes

2 1/2

Pitch of tubes

3 3/4 x 3 7/8

Material of tube plates

S

Thickness: Front

7/8

Back

13/16

Mean pitch of stays

9 9/16

Pitch across wide water spaces

14

Working pressures by rules

190

Girders to Chamber tops: Material

S

Depth and

thickness of girder at centre

8 x 7 1/8 (2)

Length as per rule

2-6

Distance apart

8 1/2

Number and pitch of stays in each

2 at 9

Working pressure by rules

193

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

W849-0067

If not, state whether, and when, one will be sent?

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

Im. 1.1.10-T.

Lloyd's Register
Foundation

VERTICAL DONKEY BOILER—Manufacturers of Steel

No.	Description				
Made at	By whom made	When made	Where fixed		
Working pressure	tested by hydraulic pressure to	Date of test	No. of Certificate	Fire grate area	Description of Safety
Valves	No. of Safety Valves	Area of each	Pressure to which they are adjusted	Date of adjustment	
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	Per centage of strength of joint	Rivets Plates
Working pressure of shell by rules	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	
Working pressure of furnace by rules	Thickness of furnace crown plates	Radius of do.	Stayed by		
Diameter of uptake	Thickness of uptake plates	Thickness of water tubes	Dates of survey		

SPARE GEAR. State the articles supplied:— 2 Connecting Rod. 10th. 10th. for 10th. ind. ditto for 10th. ind.
2 main bearing 10th. 10th. 1 set of Coupling 10th. 1 set of Feed & Bilge Pump valves
1 set of Piston Ring. A quantity of assorted 10th. 10th. 10th. of various sizes.
Thrust shaft. Propeller shaft. 4 Propeller blades 1 & 2 sets of blades.
The foregoing is a correct description,

Manufacturer. Alex Stephen & Son Ltd., Fred J. Stephen, Director.

Dates of Survey while building
During progress of work in shops --- 1911 June 1. 20. 23. July 4. 28. Aug 10. 22. Sep 1. 6. 14. 21. 26. Oct 9. 19. 25. Nov 6
During erection on board vessel --- 10. 13. 20. 24. 30. Dec 7. 13. 22. 28. 1911 Jan 9. 15. 29. Feb 5. 9. 12. 14. 20. 28
Total No. of visits --- Mar 5. 35.

Is the approved plan of main boiler forwarded herewith ☒ Yes ☐ No

Dates of Examination of principal parts—Cylinders 30-11-11 Slides 9-10-11 Covers 30-11-11 Pistons 9-10-11 Rods 21-9-11
Connecting rods 25-10-11 Crank shaft 20-11-11 Thrust shaft 20-11-11 Tunnel shafts 13-12-11 Screw shaft 22-12-11 Propeller 13-11-11
Stern tube 24-11-11 Steam pipes tested 10-11-11 Engine and boiler seatings 5-2-12 Engines holding down bolts 20-2-12
Completion of pumping arrangements 23-2-12 Boilers fixed 12-2-12 Engines tried under steam 5-3-12
Main boiler safety valves adjusted 23-2-12 Thickness of adjusting washers 1/32 3/8 7/16 3/8 1/32 3/8
Material of Crank shaft S Identification Mark on Do. W G M Material of Thrust shaft S Identification Mark on Do. W G M
Material of Tunnel shafts S Identification Marks on Do. ditto Material of Screw shafts S Identification Marks on Do. ditto
Material of Steam Pipes Iron Test pressure 525 lb

General Remarks (State quality of workmanship, opinions as to class, &c.) These Engines & Boilers have been built under Special Survey in accordance with the approved plan, & the workmanship & material are of good quality.

The Machinery is eligible in my opinion for the record of **LMC 3-12**

This vessel is a duplicate of the S/S "Damarra"
Gib. Refl. 28948

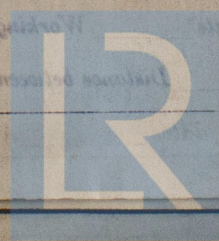
It is submitted that this vessel is eligible for THE RECORD + LMC 3.12.

The amount of Entry Fee .. £ 3 : : When applied for,
Special .. £ 41- 5 : : 7/3/12
Donkey Boiler Fee .. £ : :
Travelling Expenses (if any) £ : : When received, 9/3/12

Committee's Minute GLASCOW 12 MAR. 1912

Assigned + LMC 3, 12

W. Gordon-Mucllin
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



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