

REPORT ON MACHINERY.

Received at London Office

Date of writing Report 19 When handed in at Local Office 9/3/12 Port of 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 Sons Ltd Tons Gross 4957 Net 3200 When built 1912

Engines made at Glasgow By whom made Alpc Stephen Sons Ltd when made 1912

Boilers made at ditto By whom made ditto when made 1912

Registered Horse Power Owners MacLay & McIntyre 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 screw shaft S as fitted 15

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 Yes

No. of Donkey Engines 3 Sizes of Pumps 8" Bal 10" Jolley 4 1/2 x 3" 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 pump Is a separate Donkey Suction fitted in Engine room & size 1/2 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 Babcock

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 feet Outside 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 7/8 Lap of plates or width of butt straps 16 1/2

Per centages of strength of longitudinal joint rivets 85.7 plate 85.3 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 Thickness of plates crown 1 1/2 Description of longitudinal joint weld No. of strengthening rings

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 2 x 9 Top 9 x 8 1/2 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 78

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 1 1/32 Pitch of stays 18 2 x 10 3/4 How are stays secured DN Working pressure by rules 182 Material of stays S

Diameter at smallest part 6.66 Area supported by each stay 36.5 Working pressure by rules 188 Material of Front plates at bottom S

Thickness 7/8 1/8 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 x 1.9

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

Lloyd's Register Foundation W849-0067

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. both ends for both ends. ditto for bottom end
 2 main bearing both ends. 1 set of Coupling both ends. 1 set of Feed & Bilge Pump valves
 1 set of Piston Ring. A quantity of cross cut both ends. Iron of various sizes.
 Thrust shaft. Propeller shaft. 4 Propeller blades. 1 Brake spindle

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. 28. 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*

" " " donkey " " " *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	£	Identification Mark on Do.	LLOYD'S W & M	Material of Thrust shaft	£	Identification Mark on Do.	LLOYD'S W & M				
Material of Tunnel shafts	£	Identification Marks on Do.	ditto	Material of Screw shafts	£	Identification Marks on Do.	ditto				
Material of Steam Pipes	Iron	Test pressure	525 lbs								

General Remarks (State quality of workmanship, opinions as to class, &c.) These engines & boiler 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" G.S. Reg. 28948

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

JWR 14/3/12

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

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

Committee's Minute **GLASCOW 12 MAR. 1912**

Assigned + LMC 3, 12



GLASGOW

Certificate (if required) to be sent to

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