

# REPORT ON MACHINERY

No. 68743

No. in Survey held at Glasgow  
Reg. Book.

Date, first Survey 30<sup>th</sup> Novem<sup>r</sup> 1883 Last Survey February 1884

(Number of Visits 33)

on the S. S. "Lopis Maru"

Tons 1350.99

Master George Buddis Built at Glasgow By whom built James Howden & Co When built 1884

Engines made at Glasgow By whom made James Howden & Co when made 1884-5

Boilers made at " By whom made " when made 1884-5

Registered Horse Power 280 Owners Mitsui Bishi Mail S.S. Co Port belonging to Tokio Japan

## ENGINES, &c.—

Description of Engines Compound Inverted Direct Acting

Diameter of Cylinders 38" x 40" Length of Stroke 40" No. of Rev. per minute 40 Point of Cut off, High Pressure .6 Low Pressure .65

Diameter of Screw shaft 12 3/4" Diam. of Tunnel shaft 11 1/2" Diam. of Crank shaft journals 12 1/2" Diam. of Crank pin 12 1/2" size of Crank webs 10" x 8"

Diameter of screw 10 1/4" Pitch of screw 19" x 6" No. of blades Four state whether moveable yes total surface 69 ft

No. of Feed pumps Two diameter of ditto 4" Stroke 22" Can one be overhauled while the other is at work yes

No. of Bilge pumps Two diameter of ditto 4" Stroke 22" Can one be overhauled while the other is at work yes

Where do they pump from All compartments

No. of Donkey Engines Two Size of Pumps one 9" x 5" x 6" one 6" x 4" x 9" Where do they pump from Sea, bilge & Hotwell Ballast Tanks

Are all the bilge suction pipes fitted with roses yes Are the roses always accessible yes Are the sluices on Engine room bulkheads always accessible yes

No. of bilge injections One and sizes 5 1/4" Are they connected to condenser, or to circulating pump To Circulating

How are the pumps worked By Levers

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 Bilge pipes to forehold How are they protected By good casing

Are all pipes, cocks, valves, and pumps in connection with the machinery accessible at all times yes

Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges yes

When were stern tube, propeller, screw shaft, and all connections examined in dry dock On Slip before launching

Is the screw shaft tunnel watertight yes and fitted with a sluice door yes worked from Upper platform

## BOILERS, &c.—

Number of Boilers Two Description Round Horizontal Whether Steel or Iron Steel

Working Pressure 80 lbs Tested by hydraulic pressure to 160 lbs Date of test 4/12/84

Description of superheating apparatus or steam chest Round Longitudinal Receiver

Can each boiler be worked separately yes Can the superheater be shut off and the boiler worked separately yes

No. of square feet of fire grate surface in each boiler 97.5 ft Description of safety valves Direct Spring No. to each boiler Two

Area of each valve 19.63" Are they fitted with easing gear yes No. of safety valves to superheater 2 area of each valve —

Are they fitted with easing gear yes Smallest distance between boilers and bunkers or woodwork 18" Diameter of boilers 13' 0"

Length of boilers 14' 6" description of riveting of shell long. seams Double riveted circum. seams Double riveted Thickness of shell plates .66

Diameter of rivet holes 1 1/8" whether punched or drilled Drilled pitch of rivets 4 1/4" Lap of plating Shaps

Per centage of strength of longitudinal joint 44 working pressure of shell by rules 81 lbs size of manholes in shell 16" x 12"

Size of compensating rings Doubling plate No. of Furnaces in each boiler Six

Outside diameter 3' 3" length, top 6' 9" bottom 6' 9" thickness of plates 7/16" description of joint Welded if rings are fitted cocks

Greatest length between rings 3' 4 1/2" working pressure of furnace by the rules 89 lbs combustion chamber plating, thickness, sides .45 back — top .45

Pitch of stays to ditto, sides 8 3/4" x 8 3/4" top 8 1/4" x 8 3/4" stays are fitted with nuts or riveted heads nuts working pressure of plating by rules 80 lbs

Diameter of stays at smallest part 1 1/4" working pressure of ditto by rules 100 lbs plates in steam space, thickness .85

Pitch of stays to ditto 17" x 17" how stays are secured By double nuts working pressure by rules 88 lbs diameter of stays at smallest part 2 1/2"

working pressure by rules 104 lbs Front plates at bottom, thickness 7/16" Back plates, thickness —

Greatest pitch of stays — working pressure by rules — Diameter of tubes 3 1/2" brass pitch of tubes 4 1/8" thickness of tube plates, front 7/16" back 7/16"

how stayed By tubes pitch of stays 4 1/4" x 9 3/4" width of water spaces 7"

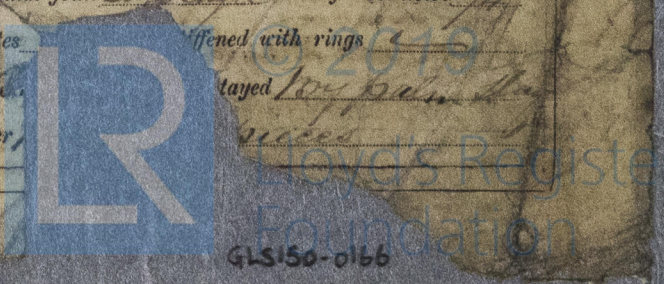
meter of Superheater or Steam chest 2' 8 1/4" length 16 ft thickness of plates 7/16" description of longitudinal joint Lap joint diam. of rivet holes 3/4"

of rivets 2 1/4" working pressure of shell by rules 59 lbs diameter of flue — thickness of plates — fitted with rings yes

between rings — working pressure by rules — end plates of superheater, or steam chest; thickness — stayed By tubes

Superheater or steam chest; how connected to boiler —

State of Report is also in the Hull of the Ship





584 3-92

DONKEY BOILER—

Description *Round Vertical*

Made at *Calcutta* by whom made *Clarke Chapman & Co* when made *1884* where fixed *Swan Ledge*  
Working pressure *140 lbs* tested by hydraulic pressure to *140 lbs* No. of Certificate *1483* fire grate area *12 1/2* description of safety  
valves *Direct Spring* No. of safety valves *One* area of each *4"* if fitted with easing gear *Yes* if steam from main boilers can  
enter the donkey boiler *No* diameter of donkey boiler *4' 6"* length *10' 6"* description of riveting *Lap*  
Thickness of shell plates *5/16"* diameter of rivet holes *1 1/16"* whether punched or drilled *punched* pitch of rivets *2 9/16"* lap of plating *3 1/2"*  
per centage of strength of joint *73* thickness of crown plates *5/16"* stayed by *3 Lays 1 1/2" dia*  
Diameter of furnace, top *3' 2 3/4"* bottom *3' 10"* length of furnace *4' 6"* thickness of plates *8/16"* description of joint *Lap Single*  
Thickness of furnace crown plates *8/16"* stayed by *As above* working pressure of shell by rules *84.0*  
Working pressure of furnace by rules *86 lbs* diameter of uptake *12"* thickness of plates *6/16"* thickness of water tubes *6/16"*

SPARE GEAR.

State the articles supplied:—

*Half Crank Shaft, HP piston Complete propeller shaft  
boss, & four blades, Valve spindle, Eccentric Strap & rod. Air & Circ pump & rod  
pin brasses, also top end connecting rod, two main bearing brasses, connecting rod  
bolts top & bottom, two main bearing bolts, one set coupling bolts set of thrust shoes, standard*

The foregoing is a correct description,

*James Rowland & Co* Manufacturer *S.*

General Remarks

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

*These Engines & Boilers are of  
good workmanship & materials and are now in good order and safe  
working condition, & eligible in my opinion to be noted in the Reg  
Book* *Lloyd's M.C. 2/85*

The amount of Entry Fee .. £ *2* : : received by me, *(Signature)*

Special .. .. £ *3/4* : : :

Donkey Boiler Fee .. .. £ : : :

Certificate (if required) .. £ : : : *14/2/1885*

To be sent as per margin.

(Travelling Expenses, if any, £ — *8/-*)

Committee's Minute

DAY 17 FEB 1885

*James Morrison*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping

