

REPORT ON MACHINERY.

Port of Southampton

Received at London Office MON 11 SEP 1905

No. in Survey held at Southampton
Reg. Book.

Date, first Survey July 24 Last Survey Sept 7 1905

on the S. Lug "Poderoso"

(Number of Visits 27)

Master Bevis Built at Woolston By whom built John I. Thonycroft & Co. When built 1905.9

Engines made at Woolston By whom made John I. Thonycroft & Co. when made 1905.9

Boilers made at do By whom made do when made do

Registered Horse Power _____ Owners Buenos Ayres & Pacific Railway Co. Port belonging to Buenos Ayres

Nom. Horse Power as per Section 28 46 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

ENGINES, &c. — Description of Engines Compound Inverted Surface Condg No. of Cylinders Two No. of Cranks Two

Dia. of Cylinders 15" 9/30" Length of Stroke 22" Revs. per minute 130 Dia. of Screw shaft 6.92" Material of screw shaft steel

Is the screw shaft fitted with a continuous liner the whole length of the stern tube no liner fitted Is the after end of the liner made water tight in the propeller boss ✓

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 3" 4"

Dia. of Tunnel shaft 6.18" Dia. of Crank shaft journals 6.49" Dia. of Crank pin 6 1/2" Size of Crank webs 12 1/2 x 4 1/2" Dia. of thrust shaft under collars 6 1/2"

Dia. of screw 7.6" Pitch of screw 10" 3" No. of blades 3 State whether moveable no Total surface 18 sq ft

No. of Feed pumps one Diameter of ditto 2 1/2" Stroke 11" Can one be overhauled while the other is at work ✓

No. of Bilge pumps one Diameter of ditto 2 1/2" Stroke 11" Can one be overhauled while the other is at work ✓

No. of Donkey Engines one Sizes of Pumps 4 1/2 x 2 1/4 x 4 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Two 2" Suctions In Holds, &c. one 2" after hold one 2" fore hold

No. of bilge injections one sizes 3 1/2" Connected to condenser, or to circulating pump C.P. 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 ✓

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 no

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 Main Steam Pipe How are they protected Iron 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 26/8/05 Is the screw shaft tunnel watertight ✓

Is it fitted with a watertight door ✓ worked from ✓

BOILERS, &c. — (Letter for record S.) Total Heating Surface of Boilers 823 sq ft Is forced draft fitted no

No. and Description of Boilers one Cylindrical Multitubular Working Pressure 130 lbs Tested by hydraulic pressure to 260 lbs

Date of test 14/7/05 Can each boiler be worked separately ✓ Area of fire grate in each boiler 38 sq ft No. and Description of safety valves to each boiler Two 2 1/2" Spring loaded

Area of each valve 4.09" Pressure to which they are adjusted 135 lbs Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 9" Mean dia. of boilers 10" 6 23/32" Length 10" 0 3/4" Material of shell plates steel

Thickness 23/32" Range of tensile strength 29/32 Are they welded or flanged ✓ Descrip. of riveting: cir. seams D. R. 1 long. seams Lat. Riv. 2

Diameter of rivet holes in long. seams 15/16" Pitch of rivets 4 7/8" Lap of plates or width of butt straps 1" 2 3/4" D.R.

Per centages of strength of longitudinal joint 88.1% Working pressure of shell by rules 137 lbs Size of manhole in shell 16" x 12"

Size of compensating ring 2" 8" x 2" 4" No. and Description of Furnaces in each boiler two plain Material steel Outside diameter 3" 3 5/16"

Length of plain part 6" 9" Thickness of plates 31/32" Description of longitudinal joint D. Riv. Lap welded No. of strengthening rings ✓

Working pressure of furnace by the rules 135 lbs Combustion chamber plates: Material steel Thickness: Sides 17/32" Back 7/16" Top 17/32" Bottom 7/8"

Pitch of stays to ditto: Sides 8 x 7 3/4" Back 8 x 9 1/2" Top 8 x 7 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 139 lbs

Material of stays steel Diameter at smallest part 1.47" Area supported by each stay 76.5" Working pressure by rules 156 lbs End plates in steam space:

Material steel Thickness 25/32" Pitch of stays 14 1/2" x 14 1/2" How are stays secured nut & washer Working pressure by rules 137.5 lbs Material of stays steel

Diameter at smallest part 2.87" Area supported by each stay 210.25" Working pressure by rules 136 lbs Material of Front plates at bottom steel

Thickness 7/8" Material of Lower back plate steel Thickness 23/32" Greatest pitch of stays 13 1/2" x 9" Working pressure of plate by rules 135.5"

Diameter of tubes 3 1/2" Pitch of tubes 4 3/4" x 4 5/8" Material of tube plates steel Thickness: Front 7/8" Back 23/32" Mean pitch of stays 11.75"

Pitch across wide water spaces 14 1/2" Working pressures by rules 130.5 lbs Girders to Chamber tops: Material steel Depth and thickness of girder at centre 6 3/4" x 1 1/2" Length as per rule 2" 5" Distance apart 7 1/2" Number and pitch of Stays in each two 8" x 7 1/2"

Working pressure by rules 131.25 lbs 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 —

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 _____ Per centage 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 connecting rod top end bolts & nuts and two bottom end bolts & nuts. 2 main bearing bolts. one set of coupling bolts one set of feed & bilge pump valves. a quantity of assorted bolts and nuts and iron of various sizes.*

For JOHN I. THORNYCROFT & Co. Limited

The foregoing is a correct description,

Manufacturer.

J. H. Laidman
Manager, Woolston Works.

Dates of Survey while building

During progress of work in shops -	Feb 24-27	March 2-15-16-18-29	April 4-7-15	May 4-18-26	June 6-15-27
	July 3-5-11-14-24-31				
	Aug 14-24-30	Sept 4-7			
During erection on board vessel -					
Total No. of visits	27				

Is the approved plan of main boiler forwarded herewith *yes*

" " " donkey " " " *yes*

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

*The Engines and Boiler of this Vessel have now been built under Special Survey and in accordance with the approved plans and Secretary Letters to 14th Feb, 17th April & 14th July 1905. The Materials and workmanship are of a good quality and when tried under steam was found satisfactory in every respect, and is now eligible in our opinion for the notification **L.M.C. 9-05** to be recorded in the Register Book.*

It is submitted that this vessel is eligible for THE RECORD **L.M.C. 9.05**

J.M. P.M.S.
11.9.05

The amount of Entry Fee.. £ 1 : 0 :
Special £ 8 : 0 :
Donkey Boiler Fee £ : :
Travelling Expenses (if any) £ : :

When applied for,

8 Sept 1905

When received,

11.9.05

John Dykes & Curmurray
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

TUES. 12 SEP 1906

Assigned

+ L.M.C. 9.05

MACHINERY CERTIFICATE WRITTEN.



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Certificate (if required) to be sent to *yes* Southampton.

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