

# REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office 13 DEC 1926

Date of writing Report *10<sup>th</sup> Dec 1926* When handed in at Local Office *10/12/26* Port of *Southampton*  
 No. in Survey held at *Southampton* Date, First Survey *April 15<sup>th</sup>* Last Survey *10<sup>th</sup> December 1926*  
 Reg. Book. on the *Twin Sc Double Ended Ferry Steamer "IMBUHY"* (Number of Visits *34*) Tons { Gross *480.29*  
 Net *216.13*  
 Built at *Southampton* By whom built *J. J. Thomecroft & Co. Ltd.* Yard No. *1060* When built *1926.12.*  
 Engines made at *do* By whom made *do* Engine No. *1060* when made *1926.*  
 Boilers made at *Glasgow* By whom made *D & W. Henderson & Co. Ltd.* Boiler No. *850* when made *1926.*  
 Registered Horse Power Owners *Companhia Cantunira Viacao Aluminosa* Port belonging to *Rio de Janeiro*  
 Nom. Horse Power as per Rule *127* Is Refrigerating Machinery fitted for cargo purposes *no* Is Electric Light fitted *yes*  
 Trade for which Vessel is intended *Harbour Service at Rio de Janeiro.*

**ENGINES, &c.**—Description of Engines *Four sets of compound engines coupled to 4 screw shafts* Revs. per minute *140*  
 Dia. of Cylinders *11 3/4" x 24 3/4"* Length of Stroke *16"* No. of Cylinders *8* No. of Cranks *8*  
 Crank shaft, dia. of journals as per Rule *6.07* as fitted *6 1/16"* Crank pin dia. *6 1/16"* Mid. length breadth *11 7/16"* Thickness parallel to axis *3 1/16"*  
 Crank webs Mid. length thickness *3 1/16"* shrunk Thickness around eye-hole *2 1/16"*  
 Intermediate Shafts, diameter as per Rule *5.21"* as fitted *5 1/2"* Thrust shaft, diameter at collars as per Rule *5.47"* as fitted *5.5"*  
 Tube Shafts, diameter as per Rule *5.93"* as fitted *5 15/16"* Is the { tube } shaft fitted with a continuous liner { *no* }  
 { screw }  
 Bronze Liners, thickness in way of bushes as per Rule *✓* as fitted *✓* Thickness between bushes as per Rule *✓* as fitted *✓* Is the after end of the liner made watertight in the propeller boss *yes*  
 If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner *✓*  
 If two liners are fitted, is the shaft lapped or protected between the liners *✓* Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft *yes*  
 Length of Bearing in Stern Bush next to and supporting propeller *2'-0"*  
 Propeller, dia. *6'-0"* Pitch *11'-2"* No. of Blades *4* Material *Brass* whether Moveable *no* Total Developed Surface *193.5* sq. feet  
 Feed Pumps worked from the Main Engines, No. *none* Diameter *✓* Stroke *✓* Can one be overhauled while the other is at work *✓*  
 Bilge Pumps worked from the Main Engines, No. *none* Diameter *✓* Stroke *✓* Can one be overhauled while the other is at work *✓*  
 Feed Pumps { No. and size *Two duplex 8" x 6" x 13"* Pumps connected to the Main Bilge Line { No. and size *Two at 6" x 6" x 6" one at 7" x 4 1/2" x 8"* }  
 { How driven *steam* } { How driven *steam* }  
 Ballast Pumps, No. and size *One Galloway 7" x 4 1/2" x 8"* Lubricating Oil Pumps, including Spare Pump, No. and size *✓*  
 Are two independent means arranged for circulating water through the Oil Cooler *✓* Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps;—In Engine and Boiler Room *Six at 2"*  
 In Holds, &c. *Forward hold Two at 2 1/4"* After hold *Two at 2 1/4"*

Main Water Circulating Pump Direct Bilge Suctions, No. and size *one at 6"* Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size *one at 3"*  
 Are all the Bilge Suction Pipes in holds and tunnel well fitted with strum-boxes *yes*  
 Are the Bilge Suctions in the Machinery Space led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges *yes*  
 Are all Sea Connections fitted direct on the skin of the ship *yes* Are they fitted with 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 Overboard Discharges 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 *Bunker bilge suction only* How are they protected *wood casing*  
 Have they been tested as per Rule *✓*  
 What pipes pass through the deep tanks *✓* Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times *yes*  
 Is the arrangement of Valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery spaces, or from one compartment to another *yes* Is the Shaft Tunnel watertight *✓* Is it fitted with a watertight door *✓* worked from *✓*

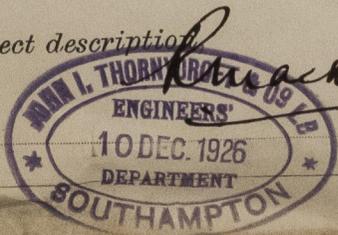
**MAIN BOILERS, &c.**—(Letter for record *S*) Total Heating Surface of Boilers *2412.*  
 Is Forced Draft fitted *no* No. and Description of Boilers *3. S.B.* Working Pressure *150 lbs*

IS A REPORT ON MAIN BOILERS NOW FORWARDED? *yes*  
 IS A DONKEY BOILER FITTED? *no* If so, is a report now forwarded? *✓*

**PLANS.** Are approved plans forwarded herewith for Shafting *yes* Main Boilers *yes* Auxiliary Boilers *✓* Donkey Boilers *✓*  
 Superheaters *✓* General Pumping Arrangements *yes* Oil fuel Burning Piping Arrangements *✓*

**SPARE GEAR.** State the articles supplied:— *2 propellers 2 screw shafts. 1 crank shaft. 2 bottom end braces, 2 crosshead braces, 2 valve spindles 2 eccentric straps, 2 sets of top & bottom end bolts & nuts, 2 sets of main bearing bolts & nuts, 2 sets of coupling bolts & nuts, 1 doz. junk fixing bolts, 24 condenser tubes, 24 boiler tubes, 1 set of fuel & bilge pump valves, 1 set of piston springs, a quantity of assorted bolts & nuts, Iron of various sizes, 2 valve spindles with bushes & nuts Complete. 2 eccentric straps complete.*

The foregoing is a correct description



Manufacturer.



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April 1926. 15<sup>th</sup> 27<sup>th</sup> May 3<sup>rd</sup> 6<sup>th</sup> 11<sup>th</sup> 17<sup>th</sup> 19<sup>th</sup> 27<sup>th</sup> June 4<sup>th</sup> 10<sup>th</sup> 11<sup>th</sup> 14<sup>th</sup> 23<sup>rd</sup> 29<sup>th</sup>  
 During progress of work in shops - -  
 July 26<sup>th</sup> 28<sup>th</sup> Aug. 5<sup>th</sup> 16<sup>th</sup> 20<sup>th</sup> 28<sup>th</sup> Sept. 1<sup>st</sup> 3<sup>rd</sup> 9<sup>th</sup> 15<sup>th</sup>  
 During erection on board vessel - - -  
 Sept. 15<sup>th</sup> 20<sup>th</sup> 27<sup>th</sup> 29<sup>th</sup> Oct. 1<sup>st</sup> 12<sup>th</sup> 13<sup>th</sup> 14<sup>th</sup> 17<sup>th</sup> 18<sup>th</sup> 17<sup>th</sup> Dec 2<sup>nd</sup> 3<sup>rd</sup> 10<sup>th</sup>  
 Total No. of visits **34**

Dates of Examination of principal parts—Cylinders 23.6.26 Slides 20.8.26 Covers 4.6.26  
 Pistons 4.6.26 Piston Rods 26.7.26 Connecting rods 28.8.26  
 Crank shaft 26.7.26 Thrust shaft 26.7.26 Intermediate shafts 26.7.26  
 Tube shaft ✓ Screw shaft 16.8.26 Propeller 9.9.26  
 Stern tube 1.9.26 Engine and boiler seatings 20.8.26 Engines holding down bolts 13.10.26  
 Completion of pumping arrangements 1.9.26 Boilers fixed 20.9.26 Engines tried under steam 12.11.26  
 Main boiler safety valves adjusted 18.10.26 Thickness of adjusting washers STAR BLR. 11" Center Rls 19" PORT BLR 5"  
 Crank shaft material Carbon Steel Identification Mark 1287 18.6.26 TH. LLOYDS N° 1281 11.6.26 TH. N° 1287 18.6.26 TH. 1293 26.6.26 TH. 1298 18.6.26 TH. Thrust shaft material steel Identification Mark 1060 4.10.26 H.  
 Intermediate shafts, material Steel Identification Marks LLOYDS N° 1060.4.10.26 H.R.C. Tube shaft, material ✓ Identification Mark ✓  
 Screw shaft, material Steel Identification Mark 1060.4.10.26 H.R.C. Steam Pipes, material S.D. steel Test pressure 450 ✓ Date of Test 27.9.26  
 Is an installation fitted for burning oil fuel no ✓ Is the flash point of the oil to be used over 150°F. ✓  
 Have the requirements of the Rules for carrying and burning oil fuel been complied with ✓  
 Is this machinery duplicate of a previous case no ✓ If so, state name of vessel ✓

**General Remarks** (State quality of workmanship, opinions as to class, &c.)  
 The machinery of this vessel has been constructed under special survey in accordance with the requirements of the Rules and approved plans; The materials and workmanship are good and on completion the machinery was installed in the vessel and afterwards tested under full working conditions ahead & astern and found to be in good order & in my opinion eligible for the record of + L.M.C. 12.26.  
 3 S.B. 150 lho<sup>o</sup> T.S. O.C. ✓

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 12.26. OG.  
 Screens fore & aft.

J.W.D. 13/12/26.

H. J. Garnett  
 Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... £ 3-0-0  
 Special ... £ 15-3-0  
 Donkey Boiler Fee ... £ : :  
 Travelling Expenses (if any) £ : :  
 When applied for, 10<sup>th</sup> Dec 1926  
 When received, 22.12.26

Committee's Minute TUES. 14 DEC 1926  
 Assigned + L.M.C. 12.26 O.G.



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

CERTIFICATE WRITTEN