

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

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Writing Report 7th April 1938 When handed in at Local Office 8th April 1938 Port of Hong Kong.
 Survey held at Hong Kong Date, First Survey May 14th 1937 Last Survey April 4th 1938
 Book. (Number of Visits 51)
 on the Steel Twin Screw River Steamer "LIWO"
 at Hong Kong By whom built The Hongkong & Whampoa Dock Co. Ltd. Yard No. 778
 Tons { Gross 707.28
 Net 341.78
 When built 1938
 Engines made at Hong Kong By whom made - do - Engine No. 500-501 when made 1938
 Boilers made at Glasgow By whom made Yarrow & Co. Ltd. Certif. Boiler No. 19991 when made 1937
 Rated Horse Power 175 Owners The Indo China Steam Navigation Co. Port belonging to Hong Kong.
 Horse Power as per Rule 277.6 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
 for which Vessel is intended Yangtze River Service

ENGINES, &c.—Description of Engines Two Sets Triple expansion, Surface Condensing Revs. per minute 295
 of Cylinders 11 3/4, 18 3/4, 32 Length of Stroke 15 No. of Cylinders 6 No. of Cranks 6
 Shaft, dia. of journals as per Rule 5.8" Crank pin dia. 5 13/16" Mid. length breadth shrunk Thickness parallel to axis 3 5/8"
 as fitted 5 13/16" Crank webs Mid. length thickness shrunk Thickness around eye-hole 1 9/32" 2 1/2"
 Intermediate Shafts, diameter as per Rule 5.53" Thrust shaft, diameter at collars as per Rule 5.8"
 as fitted 5 7/16" as fitted 5 15/16"
 Shafts, diameter as per Rule 6.25" Is the { screw } shaft fitted with a continuous liner { No Liners
 as fitted 6 1/2" as fitted 6 3/2"
 Liners, thickness in way of bushes as per Rule Thickness between bushes as per Rule Is the after end of the liner made watertight in the
 as fitted If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner
 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
 Liners are fitted, is the shaft lapped or protected between the liners Is an approved Oil Gland or other appliance fitted at the after
 of the tube shaft Yes (Victor's Type) Length of Bearing in Stern Bush next to and supporting propeller 27 1/2"
 Propeller, dia. 6'-0" Pitch 6'-6" No. of Blades 4 Material Bronze whether Moveable Fixed Total Developed Surface 17.0 sq. feet
 Pumps worked from the Main Engines, No. None Diameter Stroke Can one be overhauled while the other is at work
 Pumps worked from the Main Engines, No. None Diameter Stroke Can one be overhauled while the other is at work
 No. and size 2-8 1/2 x 6 x 18" Weir Pumps connected to the { No. and size 1-6 x 4 x 6 + 1-6 x 7 x 7 Vert. Duplex
 How driven Independent Steam Main Bilge Line How driven Independent Steam
 Oil Pumps, No. and size 1-8 1/2 x 8 1/2 x 10" Hor. Duplex Lubricating Oil Pumps, including Spare Pump, No. and size
 Two independent means arranged for circulating water through the Oil Cooler None Suctions, connected to both Main Bilge Pumps and Auxiliary
 Pumps;—In Engine and Boiler Room 2-2 1/4 in E.R. 3-2 1/4 in B.R.
 Holds, &c. 1-2 1/2 in For Cargo Hold 12 in For Cofferdam, 2-2 1/4 in aft cargo holds, Hand Pump suction in aft Coff.
 6 in For wood oil deep tank + 1-6 in aft wood oil deep tank.

Water Circulating Pump Direct Bilge Suctions, No. and size 1-7 1/2" Independent Power Pump Direct Suctions to the Engine Room Bilges,
 and size 1-2 1/2" Are all the Bilge Suction Pipes in holds and tunnel well fitted with strum-boxes Yes
 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
 all Sea Connections fitted direct on the skin of the ship Yes Are they fitted with Valves or Cocks Both
 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
 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
 Pipes are carried through the bunkers Bilge suction in bunkers How are they protected Steel plates
 pipes pass through the deep tanks None Have they been tested as per Rule Yes
 all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes
 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
 department to another Yes Is the Shaft Tunnel watertight None Is it fitted with a watertight door worked from
 Shafting protected from Cargo by wood casing with access by ladder through manhole on U. Deck.

IN BOILERS, &c.—(Letter for record L) Total Heating Surface of Boilers 5000 sq. ft.
 Forced Draft fitted Yes No. and Description of Boilers 2- Yarrow W.T. Working Pressure 250 lbs.

A REPORT ON MAIN BOILERS NOW FORWARDED? Yes

A DONKEY BOILER FITTED? No

If so, is a report now forwarded? Yes

PLANS. Are approved plans forwarded herewith for Shafting 6/4/37 Main Boilers Report Auxiliary Boilers Donkey Boilers
 (If not state date of approval) 11/8/37
 Preheaters General Pumping Arrangements 26/7/37 Oil fuel Burning Piping Arrangements

SPARE GEAR. State the articles supplied:— See Attached List.

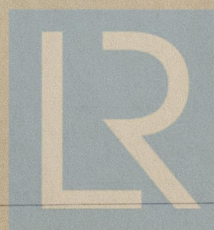
The foregoing is a correct description.

THE HONGKONG & WHAMPOA DOCK CO., LTD.

Heoh.

CHIEF MANAGER

Manufacturer.



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W1056-0029

1937
 May 14, 25, 26 June 1, 12, 14, 29, July 12, 24, Aug. 3, 9, 19, 25, 30, Sept. 1, 9, 13, 16, 18, 20, 23, 30.
 During progress of work in shops -- Oct. 19, Nov. 2, 8, 19, Dec. 6, 13,
 1937
 Nov. 22, 30, Dec. 8, 11, 17, 23, Jan. 5, 10, Feb. 3, 14, Feb. 16, 18, 22, 26, Mar. 2, 7, 8, 9.
 During erection on board vessel -- 14, 18, 24, 30, April 4th
 Total No. of visits 51

Dates of Examination of principal parts—Cylinders 29-6-37 + 9-8-37 Slides 29-6-37 + 9-8-37 Covers 29-6-37 + 9-8-37
 Pistons 9-8-37 Piston Rods 19-10-37 Connecting rods 19-10-37
 Crank shaft 19-10-37 Thrust shaft 19-10-37 Intermediate shafts 17-12-37
 Tube shaft ✓ Screw shaft 17-12-37 Propeller 20-12-37
 Stern tube 11-12-37 Engine and boiler seatings 25-9-38 Engines holding down bolts 26-2-38
 Completion of pumping arrangements 18-3-38 Boilers fixed 4-11-37 Engines tried under steam 30-3-38.
 Main boiler safety valves adjusted 24-3-38 Thickness of adjusting washers For'd Boiler P 5/16" S 3/8" Aft " P 3/8" S 3/8".
 Crank shaft material Steel Identification Mark N° 500 + 501 T.S.M. 19-10-37 Thrust shaft material Steel Identification Mark N° 500 + 501 T.S.M. 19-10-37
 Intermediate shafts, material Steel Identification Marks -do- Tube shaft, material ✓ Identification Mark ✓
 Screw shaft, material Steel Identification Mark T.S.M. 17-12-37 Steam Pipes, material Steel Test pressure 750 lb. Date of Test 2-3-38
 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 built + fitted on board under special survey in accordance with the Rules + approved plans + materials + workmanship are good + were satisfactorily tried under working conditions. A mean speed of 13 knots was obtained at 190 revolutions.
 Forging reports enclosed.

It is recommended that the vessel be classed with Lloyd's Machinery Certificate + the record of + LMC 4-38, O.G. be made in the Register Book.

The amount of Entry Fee ... £ 8 }
 3/5 Special ... £ 80 } B 1438
 Donkey Boiler Fee ... £ ✓ : :
 Travelling Expenses (if any) £ B. 120 : :
 When applied for, 5th April 1938
 When received, 22-6-1938

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

Committee's Minute 2801444 41 301
 Assigned + Lmb 4-38 J.D.; O.G.
 2 (W.T.) B.



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