

# REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office MAY 10 1938

Writing Report 7<sup>th</sup> April 1938 When handed in at Local Office 8<sup>th</sup> April 1938 Port of Hongkong  
 Survey held at Hongkong Date, First Survey May 14<sup>th</sup> 1937 Last Survey April 4<sup>th</sup> 1938  
 Book. on the Steel Twin Screw River Steamer "LIWO" (Number of Visits 51)  
 at Hongkong By whom built The Hongkong & Whampoa Dock Co<sup>td</sup> Yard No. 778 Tons { Gross 707.28  
 Net 341.78  
 When built 1938  
 Engines made at Hongkong By whom made - do - Engine No. 500-501 when made 1938  
 Boilers made at Glasgow By whom made Yarrow & Co. L<sup>td</sup> Certif. Boiler No. 19991 when made 1937  
 Rated Horse Power 175 Owners The Indo China Steam Navigation Co. Port belonging to Hongkong  
 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  
 No. of Cylinders 6 No. of Cranks 6  
 Length of Stroke 15" Mid. length breadth ✓ Thickness parallel to axis 3 5/8"  
 Shaft, dia. of journals as per Rule 5.8" Crank pin dia. 5 13/16" Crank webs shrunk Thickness around eye-hole 2 19/32"  
 as fitted 5 13/16" Mid. length thickness ✓ as per Rule 5.8"  
 Intermediate Shafts, diameter as fitted 5 7/16" Thrust shaft, diameter at collars as fitted 5 15/16"  
 as per Rule 5.53" as fitted 5 15/16"  
 Shafts, diameter as per Rule 6.25" Screw Shaft, diameter as per Rule 6 1/2" Is the ✓ shaft fitted with a continuous liner No Liner  
 as fitted ✓ as fitted 6 1/2" as fitted ✓  
 Liners, thickness in way of bushes as per Rule 3/16" Thickness between bushes as per Rule 3/16" Is the after end of the liner made watertight in the  
 as fitted ✓ as fitted ✓ 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 Stone's 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" Weirs Pumps connected to the Main Bilge Line { No. and size 1-6" x 4" x 6" + 1-6" x 7" x 7" Vert. Duplex  
 How driven Independent Steam How driven Independent Steam  
 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<sup>d</sup> Cargo Hold. 12" in For<sup>d</sup> Cofferdam, 2-2 1/4" in aft cargo holds, Hand Pump suction in aft Coff.  
6" in For<sup>d</sup> 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 ✓  
 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  
 compartment 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 甲  
 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? ✓  
 Plans. Are approved plans forwarded herewith for Shafting 6/16/37 Main Boilers Report See Glasgow Auxiliary Boilers ✓ Donkey Boilers ✓  
 (If not state date of approval) 11/8/37  
 Preheaters ✓ General Pumping Arrangements None 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.  
 Hooh.  
 CHIEF MANAGER

Manufacturer.



W1056-0029

1937  
 During progress of work in shops -- 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,  
 Oct. 19, Nov. 2, 8, 19, Dec. 6, 13,  
 1938  
 During erection on board vessel -- Nov. 22, 30, Dec. 8, 11, 17, 23, Jan. 5, 10, Feb. 3, 14, Feb. 16, 18, 22, 26, Mar. 2, 7, 8, 9,  
 14, 18, 24, 30, April 4<sup>th</sup>  
 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 *Fore 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 lbs.* Date of Test *2-3-38*  
*Feed. Blow off Pipes (Copper) " " 625 " " 2-3-38*  
*9-3-38*  
 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.*

Certificate to be sent to  
 The amount of Entry Fee ... £ 8 }  
 3/5 Special ... £ 80 } *£ 1438*  
 Donkey Boiler Fee ... £ ✓ :  
 Travelling Expenses (if any) *£ 120* }  
 When applied for, *5<sup>th</sup> April 1938*  
 When received, *22<sup>nd</sup> 6 19 38*

*J. D. Morrison*  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned *+ Lamb 4.38 J.D.; O.G.*  
*2 (W.T.) B.*



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