

# REPORT ON OIL ENGINE MACHINERY.

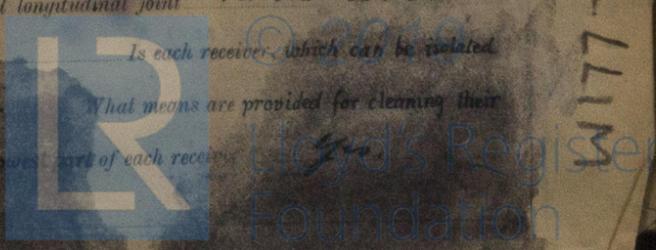
No. 2363  
21 JUN 1926

Received at London Office

Date of writing Report 24<sup>th</sup> May 1926 When handed in at Local Office Shanghai Port of Shanghai  
 No. in Survey held at Shanghai Date, First Survey 28<sup>th</sup> April, 1925 Last Survey 8<sup>th</sup> May, 1926  
 Reg. Book. Single Screw vessels "HAI-KWANG" Number of Visits 1  
 on the Twin } Tons { Gross 898.62  
Triple } Net 500.91  
 Master Lincoln Built at Shanghai By whom built How Eng + S.B. Mks Yard No. 568 When built 1926  
 Engines made at Lincoln By whom made Ruston + Hornsby Ltd. Engine No. 10796 When made 1919  
 Donkey Boilers made at Shanghai By whom made How Eng + S.B. Mks. Boiler No. 570 When made 1926  
 Brake Horse Power Total 640 Owners Anglo Saxon Petroleum Co. Port belonging to Shanghai  
 Nom. Horse Power as per Rule 183 Is Refrigerating Machinery fitted for cargo purposes  Is Electric Light fitted

**L ENGINES, &c.**—Type of Engines Horizontal tandem Oil. 2 or 4 stroke cycle 2 Single or double acting Single  
 Maximum pressure in cylinders 300 lbs sq in No. of cylinders 4 in each No. of cranks 4 Diameter of cylinders 16 1/2"  
 Length of stroke 18 15/16" Revolutions per minute 225 Means of ignition Hot Bull Kind of fuel used Shale & kerosene  
 Is there a bearing between each crank Yes Span of bearings (Page 92, Section 2, par. 7 of Rules) 4 1/2"  
 Distance between centres of main bearings 2' 9 1/16" Is a flywheel fitted Yes Diameter of crank shaft journals 7 3/32"  
 Diameter of crank pins 7 3/32" Breadth of crank webs 10 5/8" Thickness of ditto 4 3/32"  
 Diameter of flywheel shaft 7 1/4" Diameter of tunnel shaft 6 5/8" Diameter of thrust shaft 6 3/8"  
 Diameter of screw shaft 4 1/2" Is the screw shaft fitted with a continuous liner the whole length of the stern tube None  
 Is the after end of the liner made watertight in the propeller boss  If the liner is in more than one length are the joints burned   
 Is 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  If without liners, is the shaft arranged to run in oil Yes  
 Diameter of outer gland fitted to stern tube Vertical Rings Length of stern bush 2' 10" Diameter of propeller 6' 0"  
 Diameter of propeller 6' 3" No. of blades 3 state whether moveable No Total surface 10 sq square feet  
 Method of reversing Reversing on engine which at time would be deactuated Is a governor or other arrangement fitted to prevent racing of the engine when deactuated Yes Thickness of cylinder liners 1/8"  
 Are the cylinders fitted with safety valves No Means of lubrication Forced sight feed Are the exhaust pipes and silencers water cooled or lagged with conducting material Water cooled  
 Is the exhaust led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine   
 No. of cooling water pumps 2 Is the sea suction provided with an efficient strainer which can be cleared   
 No. of bilge pumps fitted to the main engines 1 each engine Diameter of ditto 3 19/32" Stroke 5 1/8"  
 Can one be overhauled while the other is at work  No. of auxiliary pumps connected to the main bilge lines 1 How driven Steam  
 Sizes of pumps 4 1/2" x 5" x 6" No. and sizes of suction connected to both main bilge pumps and auxiliary bilge pumps:—In engine room 2-2"  
 in holds, etc.  No. of ballast pumps 1 How driven Steam Sizes of pumps 7 1/2" x 5" x 6"  
 Is the ballast pump fitted with a direct suction from the engine room bilges Yes State size 2 1/2" Is a separate auxiliary pump suction fitted in engine room and size 1-2" hc  
 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 Valves Are they fixed sufficiently high on the ship's side to be seen without lifting the floor plates Yes  
 Are the discharge pipes above or below the deep water line Below Are they each fitted with a discharge valve always accessible on the plating of the vessel Yes  
 Are all pipes, cocks, valves and pumps in connection with the machinery 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  
 Is the screw shaft tunnel watertight  Is it fitted with a watertight door   
 If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

**RECEIVERS:**—No. of high pressure air receivers 5 Internal diameter 17 1/4" Cubic capacity of each 130 cu ft  
 Material Steel Range of tensile strength 30,000-40,000  
 Working pressure by Rules 100 No. of starting air receivers 5 Internal diameter 17 1/4"  
 Working pressure by rules 100 Is each receiver which can be isolated   
 Can the internal surfaces of the receivers be examined No What means are provided for cleaning their surfaces None  
 Is there a drain arrangement fitted at the lowest part of each receiver



6410-1149

IS A DONKEY BOILER FITTED? *Yes*

If so, is a report now forwarded? *Yes*

HYDRAULIC TESTS:-

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS .....			650 lbs.		<i>These tests made by Admiralty</i>
" <i>Part Covers 7. test. Made of cast steel by F.H. Lloyd &amp; Co. N. S. S. S. S.</i>		<i>Jackets</i>	40 lbs.		
" JACKETS .....					
" PISTON WATER PASSAGES .....					
MAIN COMPRESSORS—1st STAGE .....					
" 2nd " .....					
" 3rd " .....					
AIR RECEIVERS—STARTING .....					
" INJECTION .....					
AIR PIPES .....					
FUEL PIPES .....					
FUEL PUMPS .....					
SILENCER .....			35 lbs.		
" WATER JACKET .....					
SEPARATE FUEL TANKS .....					

PLANS. Are approved plans forwarded herewith for shafting *Tunnel & Sums* Receivers *Separate Tanks*

SPARE GEAR *Two complete sets of engines are kept at the Store room Shanghai. Spare parts are taken from these engines as necessary.*

THE NEW ENGINEERING AND SHIPBUILDING WORKS, LTD.

The foregoing is a correct description,

*C. S. S. S.*  
MANAGING DIRECTOR

Dates of Survey while building  
 During progress of work in shops - 1925. 29<sup>th</sup> April, Oct 24, Dec 3, 8, 22, 26, 28  
 During erection on board vessel - 1926. Jan 6, 11, 18, 21, 27. Feb. 2, 11, 18, 24 March 3, 5, 12, 17, 31. April 9, 13, 15, 26, 28/29  
 Total No. of visits 27

Dates of Examination of principal parts—Cylinders 24/10/25 Covers 24/10/25 Pistons 24/10/25 Rods 24/10/25 Connecting rods 24/10/25  
 Crank shaft 28/4/25 Thrust shaft 12/12/25 Tunnel shafts 28/12/25 Screw shaft 28/12/25 Propeller 28/12/25 Stern tube 26/12/25 Engine seatings 8/12/26  
 Engines holding down bolts 11/1/26 18/2/26 Completion of pumping arrangements 15/4/26 Engines tried under working conditions 8/5/26  
 Completion of fitting sea connections 22/12/25 Stern tube 28/12/25 Screw shaft and propeller 4/4/26

Material of crank shaft *Steel* Identification Mark on Do. Material of thrust shaft *Steel* Identification Mark on Do.  
 Material of tunnel shafts *Steel* Identification Marks on Do. *Nº 19* Material of screw shafts *Steel* Identification Marks on Do. *Nº 20*

Is the flash point of the oil to be used over 150° F. *Yes*  
 Is this machinery duplicate of a previous case *Yes* If so, state name of vessel *"Queen Limburg" "Sumingoo" Elm Report 90866/7/8.*

General Remarks (State quality of workmanship, opinions as to class, &c.)  
*These engines have not been built under special survey. The materials have been tested by Admiralty Officer who also applied the hydraulic tests. The engines intended for this vessel were N<sup>os</sup> 10776 & 10796. Similar Reports 110 & 11100. Upon examination of these engines at Shanghai the crank shafts were found to be badly fitted not fit for use. A spare crank shaft was taken from the "Fu-Hoang" and another one was sent from Singapore, shaft N<sup>o</sup> 53021. The machinery has been installed on board in accordance with the Rules and satisfactorily tried under working and is eligible, in my opinion, for notation of LME 5,26*

The amount of Entry Fee ... \$ 24<sup>00</sup>  
 and ... \$ 800<sup>00</sup>  
 any \$ 60<sup>00</sup>  
 When applied for, 11-5-1926  
 When received, 8-5-26  
 AUG 6 1926

*M. Douglas*  
 Engineer Surveyor to Lloyd's Register of Shipping

TUES. 21 SEP 1926  
 Lloyd's Register Foundation