

REPORT ON OIL ENGINE MACHINERY.

Received at London Office

11 JUN 1931

Date of writing Report 13th May, 1931 when handed in at Local Office

Port of SHANGHAI, CHINA.

No. in Survey held at SHANGHAI

Date, First Survey 23rd Sept., 1930 Last Survey 6th May, 1931.

Reg. Book.

Number of Vistas 23

on the Single }
Twin } Screw vessel "HO KWANG"
Triple }
Quadruple }

Tons { Gross 685
Net 383

Built at SHANGHAI By whom built New Eng. & Shipbldg. Wks. Ltd. Yard No. 687 When built 1931.

Engines made at Keighley, England. By whom made H. Widdop & Co., Ltd. Engine No. 2959 When made 1931.

Donkey Boilers made at SHANGHAI By whom made New Eng. & Shipbldg. Wks. Ltd. Boiler No. 689 When made 1931.

Brake Horse Power 600 total Owners Asiatic Petroleum Co. (North China) Ltd. belonging to SHANGHAI

Nom. Horse Power as per Rule (171) Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Trade for which vessel is intended River purposes.

OIL ENGINES, &c.—Type of Engines Vertical, Solid injection, Reversing, Air Starting 2 or 4 stroke cycle 2 Single or double acting Single

Maximum pressure in cylinders 600 lb. Diameter of cylinders 11 1/2" Length of stroke 13 1/2" No. of cylinders 6 No. of cranks 6

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge - Is there a bearing between each crank Yes

Revolutions per minute 330 Flywheel dia. 40" Weight 20 1/2 cwts. Means of ignition Compression Kind of fuel used Heavy Oil

Crank Shaft, dia. of journals - as per Rule - as fitted - Crank pin dia. - Crank Webs Mid. length breadth - Mid. length thickness - Thickness parallel to axis - Thickness around eye-hole -

Flywheel Shaft, diameter - as per Rule - as fitted - Intermediate Shafts, diameter 3.69" as per Rule 5" as fitted 5" Thrust Shaft, diameter at collars 4 1/2" as per Rule 4 1/2" as fitted 4 1/2"

Tube Shaft, diameter - as per Rule - as fitted - Screw Shaft, diameter 5-5/8" as per Rule 5-5/8" as fitted 5-5/8" Is the tube shaft fitted with a continuous liner No

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 - If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner -

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 - 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'-3-5/8"

Propeller, dia. 5'-0" Pitch 3'-10 1/2" No. of blades 4 Material Bronze whether Moveable No Total Developed Surface 10.5 sq. feet

Method of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication

Forced Yes Thickness of cylinder liners Yes Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with

non-conducting material Yes If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine Led up

Cooling Water Pumps, No. One on each engine Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes funnel

Bilge Pumps worked from the Main Engines, No. 1 each engine Diameter 3 1/2" Stroke 3" Can one be overhauled while the other is at work Yes

Pumps connected to the Main Bilge Line { No. and Size Condenser, cir. pump 6" x 6" x 6" How driven Steam

Ballast Pumps, No. and size 1, 5 1/4" x 4 3/4" x 5" 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, No. and size:—In Machinery Spaces Cir. pump 6"x 6"x 6" Feed pump 4"x 6"x 7" Gen Ser. pump 6"x 4"x 6" Trans-fer pump 3"x 2"x 3"

In Holds, &c. Cargo Oil Pumps 8"x 8 1/2"x 10" Ballast Pump (Deck) 5 1/4"x 4 3/4"x 5"

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size One pump 6" x 6" x 6" Dia. of Bilge suction 3"

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes Are the Bilge Suctions in the Machinery Spaces

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 Valves

Are they fixed sufficiently high on the ship's side to be seen without lifting the platform 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 pass through the bunkers None How are they protected -

What pipes pass through the deep tanks - Have they been tested as per Rule Yes

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 No Is it fitted with a watertight door worked from

If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

Main Air Compressors, No. One, each Engine No. of stages 2 Diameters 2 1/2" & 6" Stroke 3 Driven by Main Engine

Auxiliary Air Compressors, No. 1, Reavall's C.S.A. 6 type, Capacity 45 cu.ft. free air per min, compressing to 500 lb. per square inch. Driven by Steam Engine

Small Auxiliary Air Compressors, No. - No. of stages - Diameters - Stroke - Driven by -

Scavenging Air Pumps, No. - Diameter - Stroke - Driven by -

Auxiliary Engines crank shafts, diameter - as per Rule - as fitted -

AIR RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule Yes

Can the internal surfaces of the receivers be examined Yes What means are provided for cleaning their inner surfaces Removable plugs

Is there a drain arrangement fitted at the lowest part of each receiver Yes

High Pressure Air Receivers, No. - Cubic capacity of each - Internal diameter - thickness -

Seamless, lap welded or riveted longitudinal joint (237030, 237031, 237032) Material - Range of tensile strength - Working pressure by Rules -

Starting Air Receivers, No. 6 (237033, 237034, Total cubic capacity 43.5 cu.ft. 239029.) Internal diameter 1'-0 1/2" thickness -

Seamless, lap welded or riveted longitudinal joint Seamless Material Steel Range of tensile strength - Working pressure by Rules 460 sq. ins. W.P.

IS A DONKEY BOILER FITTED? **Yes** If so, is a report now forwarded? **Yes**

PLANS. ~~Are approved plans forwarded herewith for Shifting~~ **From Kobe Office** Receivers Separate Tanks

Donkey Boilers General Pumping Arrangements Oil Fuel Burning Arrangements

SPARE GEAR **As per Manchester Report No. 7151.**

The foregoing is a correct description,

A. P. Lechman Manufacturer.

Dates of Survey while building
 During progress of work in shops - - 23-9-30, 1-10-30, 20-10-30, 11-11-30, 26-11-30, 5-12-30, 16-12-30, 19-12-30, 27-6-1-31, 10-1-31, 20-1-31, 2-2-31, 11-2-31, 12-2-31.
 During erection on board vessel - - 19-2-31, 28-2-31, 14-3-31, 23-3-31, 27-3-31, 10-4-31, 17-4-31, 6-5-31.
 Total No. of visits 23

Dates of Examination of principal parts—Cylinders - Covers - Pistons - Rods - Connecting rods -
 Crank shaft - Flywheel shaft - Thrust shaft - Intermediate shafts 1-10-30 Tube shaft -
 23-9-30
 Screw shaft 11-11-30 Propeller 14-2-31 Stern tube 11-2-31 Engine seatings 19-12-30 Engines holding down bolts 28-2-31
 Completion of fitting sea connections 12-2-31 Completion of pumping arrangements 15-4-31 Engines tried under working conditions 6-5-31
 Crank shaft, Material - Identification Mark - Flywheel shaft, Material - Identification Mark -
 Thrust shaft, Material - Identification Mark - Intermediate shafts, Material **Mild Steel** Identification Marks **No. 687**
 Tube shaft, Material - Identification Mark - Screw shaft, Material **Mild Steel** Identification Mark **No. 687**

Is the flash point of the oil to be used over 150° F. **Yes**

Is this machinery duplicate of a previous case - If so, state name of vessel -

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

The Machinery of this vessel has been installed in accordance with the Rules and approved plans. The materials and workmanship as far as can be ascertained have been found good. The machinery finally examined under full service conditions and found satisfactory.

It is Recommended that the records of + LMC 5,31, (OG), Electric Light fitted be made in the Register Book in the case of this vessel. (See Manchester report No. 7151 for full particulars of main engines.)

The amount of Entry Fee ... \$ 45.00 : When applied for,
 Special ... \$ 550.00 : 8-5-19 31
 Donkey Boiler Fee ... \$ 200.00 : When received,
 Travelling Expenses (if any) \$ 100.00 : 12-5-19 31

Committee's Minute

Assigned

+ L.M.C. 5,31

O.G.

J. Brooke Smith

Engineer Surveyor to Lloyd's Register of Shipping.



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

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