

REPORT ON OIL ENGINE MACHINERY.

No. 7151

Received at London Office 20 OCT 1930

Date of writing Report 15-10-30 When handed in at Local Office 18-10-30 Port of MANCHESTER
Date, First Survey 20-5-30 Last Survey 14-10-1930
Number of Visits 11.

Name in Survey held at MANCHESTER
Reg. Book. Single on the Twin Triple Screw vessel "HO-KWANG". Tons Gross Net

Built at Shanghai By whom built The New Engineering & Ship Works Ltd Yard No. 687 When built
Engines made at Keighley, Yorks. By whom made Messrs H. Widdop & Co Ltd. Engine No. 2958 When made 1930
Donkey Boilers made at By whom made Boiler No. When made
Brake Horse Power 600 Total Owners The Asiatic Petroleum Co. Port belonging to
Nom. Horse Power as per Rule 171 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

Trade for which vessel is intended Oil carrying vessel

TYPE OF 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 lbs/sq. in Diameter of cylinders 11 1/2" Length of stroke 13 1/2" No. of cylinders 6 each engine No. of cranks 6

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 16.84" Is there a bearing between each crank Yes

Revolutions per minute 330 Flywheel dia. 40" Weight 20 1/2 cwt. Means of ignition Heat of compression of fuel used Heavy Oil

Crank Shaft, dia. of journals as per Rule 6 3/4" as fitted 6 3/4" Approved Crank pin dia. 6 3/4" Crank Webs Mid. length breadth 9" Mid. length thickness 3 3/4" Thickness parallel to axis Solid Thickness around eye hole 4 3/4" as per Rule 4 3/4" as fitted Approved

Intermediate Shafts, diameter as per Rule as fitted Thrust Shaft, diameter at collars as per Rule 4 3/4" as fitted Approved

Screw Shaft, diameter as per Rule as fitted Is the tube screw shaft fitted with a continuous liner

Size Liners, thickness in way of bushes as per Rule as fitted Thickness between bushes as fitted Is the after end of the liner made watertight in the

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

Does the liner do 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

When 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

If so, state type Length of Bearing in Stern Bush next to and supporting propeller

Propeller, dia. Pitch No. of blades Material whether Moveable Total Developed Surface sq. feet

Method of reversing Engine Camshaft act. Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication MANIFOLDS

TO MAIN BEARINGS. Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with

SIGHT FEED TO REMAIN DRY. Thickness of cylinder liner Solid with cyl. WATER COOLED the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine

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

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

Pumps connected to the Main Bilge Line No. and Size How driven (ONE EACH ENGINE) ONE TWIN PLUNGER PUMP 1 1/4" x 3" Stroke ONE SIGHT FEED LUBRICATOR PUMP.

Oil Pumps, No. and size Lubricating Oil Pumps, including Spare Pump, No. and size ONE TWIN PLUNGER PUMP 1 1/4" x 3" Stroke ONE SIGHT FEED LUBRICATOR PUMP.

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 Holds, &c.

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size Are the Bilge Suctions in the Machinery Spaces

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

from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges Are they fitted with Valves or Cocks

Are all Sea Connections fitted direct on the skin of the ship Are the Overboard Discharges above or below the deep water line

Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates Are the Blow Off Cocks fitted with a spigot and brass covering plate

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel How are they protected

What pipes pass through the bunkers 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

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 Is the Shaft Tunnel watertight 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 on each engine No. of stages 2 Diameters 2 3/4" & 6" Stroke 3" Driven by crankshaft extension

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

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

Scavenging Air Pumps, No. Crankcase compression 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 Safety valve fitted on compressor. Plug in ends.

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

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

High Pressure Air Receivers, No. Not fitted Cubic capacity of each Internal diameter thickness

Seamless, lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure by Rules

Starting Air Receivers, No. 6 (237030, 237031, 237032, 237033.) Total cubic capacity 43.5 CUB. FT. Internal diameter 12 1/2" thickness 4 sides, 1" centre of base.

Seamless, lap welded or riveted longitudinal joint Material Mild Steel Range of tensile strength 28-32 Tons Working pressure by Rules 460 lbs/sq. in.

CHESTERFIELD TYPE

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

PLANS. Are approved plans forwarded herewith for Shafting *Yes.*

Receivers *Yes.*

Separate Tanks

t. 4b.

Donkey Boilers

General Pumping Arrangements

Oil Fuel Burning Arrangements

SPARE GEAR Two cylinder heads complete. (LLOYD'S TEST 7-10-30 C.E.)

Two pistons complete with rings and pins. Two gudgeon pin bushes. Two pairs crank pin brasses with bolts & nuts. Two sets screw gears for camshafts. Six sprayer nozzles. Two complete fuel pumps. One set of flexible coupling leather. Four main bearing studs & nuts. One set studs and nuts for cylinder covers. Six sets crankcase air valves. Two crankcase air valve guards. Two air starting valve boxes. One lubricator ratchet pawl and spring. Six bango oilers. Two sets rubber valves for circulating pump. Two sets rubber valves for bilge pump. Two complete fuel injectors. One set crankcase sealing rings. One set bottom half main bearings (one engine). Twelve sets cylinder head joints. Six sets fuel pump delivery valves. Two sets pump plunger leathers. Two compressor delivery valves. Two compressor piston rings. Two compressor valve springs. Two compressor gudgeon pin oiler springs. Six lubricator oil pump springs.

The foregoing is a correct description, For R. WIDDOP & COMPANY LTD.

J. Guachhead DIRECTOR

Manufacturer.

Table with columns for Dates of Survey while building, Dates of Examination of principal parts, Completion of fitting sea connections, and Completion of pumping arrangements. Includes dates like 20/6/30, 23/6/30, 27/6/30, 8/7/30, 21/7/30, 24/7/30, 7/8/30, 9/9/30, 25/9/30, 7/10/30, 14/10/30.

Is the flash point of the oil to be used over 150° F. Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with. Is the vessel (not being an oil tanker) fitted for carrying oil as cargo. If so, have the requirements of the Rules 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 above main engines of Widdop's Type ZHG have been built under Special Survey, and the materials tested in accordance with the Rules of this Society. The materials so far as can be seen are sound and the workmanship is good. The engines proved satisfactory under shop tests on full load and manoeuvred well. These engines are in my opinion eligible for the notation of LMC with date when fitted on board the vessel in accordance with the Rule requirements.

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

Table with columns for Fee Type, Amount, and Date. Rows include: The amount of Entry Fee (£3 : 0), Special (£34 : 4), Donkey Boiler Fee (£ :), Travelling Expenses (if any) (£1 : 16). Dates: 18.10.1930, 3.11.30.

J. J. Campbell Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute Assigned

