

COPY

REPORT ON OIL ENGINE MACHINERY.

No. 7151.

Received at London Office

Writing Report 15-10-1930 When handed in at Local Office 18-10-1930 Port of

MANCHESTER

Survey held at

Date, First Survey 20-5-30 Last Survey 14-10-1930
Number of Visits 11

on the ^{Single} ~~Twin~~ ~~Triple~~ ~~Quadruple~~ Screw vessel "HO-KWANG"

Tons ^{Gross} _{Net}

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

Boilers made at

By whom made

Boiler No. When made

Indicated Horse Power 600 Total

Owners The Asiatic Petroleum Co.

Port belonging to

Indicated Horse Power as per Rule 171 (274) Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

Trade for which vessel is intended Oil carrying vessel

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

Distance 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 Kind of fuel used Heavy Oil

Crank Shaft, dia. of journals as per Rule 3 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

Intermediate Shafts, diameter as per Rule as fitted Thrust Shaft, diameter at collars as per Rule 4 3/4" 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 per rule as fitted Is the after end of the liner made watertight in the

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

Is the liner 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

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

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 Engines hand shaft & air Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes

SIGHT FEED TO REMAINDER. Thickness of cylinder liners SOLID WITH CYL. Are the cylinders fitted with safety valves Yes Are the exhaust MANIFOLDS water cooled or lagged with

conducting material WATER COOLED (the exhaust) is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine

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

Oil 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

Fast Pumps, No. and size Lubricating Oil Pumps, including Spare Pump, No. and size ONE TWIN PLUNGER PUMP 1 3/4" 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

all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes

from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges

all Sea Connections fitted direct on the skin of the ship Are they fitted with Valves or Cocks

they fixed sufficiently high on the ship's side to be seen without lifting the platform plates Are the Overboard Discharges above or below the deep water line

they each fitted with a Discharge Valve always accessible on the plating of the vessel Are the Blow Off Cocks fitted with a spigot and brass covering plate

at pipes pass through the bunkers How are they protected

at pipes pass through the deep tanks 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

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

partment to another Is the Shaft Tunnel watertight Is it fitted with a watertight door worked from

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

in 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

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

Reversing 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 end.

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. 237030, 237031, 237012, 237033 Total cubic capacity 43.5 CUB. FT. Internal diameter 12 1/2" thickness 1/2" sides, 1" centre of ball

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.

010229-010235-0204

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

PLANS. Are approved plans forwarded herewith for Shafting Yes
(If not, state date of approval)

Receivers Yes

Separate Tanks Yes

Donkey Boilers

General Pumping Arrangements

Oil Fuel Burning Arrangements

SPARE GEAR two cylinder heads complete (LLOYDS TEST 7-10-30 ^{CF})

Two pistons complete with rings and pins. Two gudgeon pin bushes. Two pairs crankpin brasses with bolts and nuts.
 Two sets screw gears for camshaft. Six spray nozzles. Two complete fuel pumps. One set of flexible coupling leathers.
 Four main bearing studs & nuts. One set studs & nuts for cylinder cover. Six sets crankcase air valves.
 Two crankcase air valve guards. Two air starting valves & 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,

Manufacturer.

Dates of Survey while building { During progress of work in shops - - 20/5/30. 23/6/30. 27/6/30. 5/7/30. 21/7/30. 24/7/30. 7/8/30. 9/9/30. 25/9/30. 7/10/30. 14/10/30.
 { During erection on board vessel - - }
 Total No. of visits

Dates of Examination of principal parts—Cylinders 21-7-30 21-7-30 7-8-30 23-6-30
 Covers 7-8-30 25-9-30 7-10-30 7-8-30
 Pistons 25-9-30 Rods ✓ Connecting rods 27-6-30
 Crank shaft 22-5-30, 8-7-30, 27-6-30, 24-7-30 Flywheel shaft ✓ Thrust shaft 27-6-30, 9-9-30 Intermediate shafts ✓ Tube shaft ✓
 Screw shaft Propeller Stern tube Engine seatings Engines holding down bolts 25-9-30

Completion of fitting sea connections Completion of pumping arrangements Engines tried under working conditions in SHOP 14-10-30
 Crank shaft, Material Mild Steel Identification Mark N^o 539 + 1813 ^{CF} Flywheel shaft, Material ✓ Identification Mark
 Thrust shaft, Material Mild Steel Identification Mark N^o 459 + 460 ^{CF} Intermediate shafts, Material Identification Marks
 Tube shaft, Material Identification Mark Screw shaft, Material Identification Mark

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 2H6 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 test 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.

The amount of Entry Fee ... £ 3 : 0 : When applied for,
 Special ... £ 34 : 4 : 18-10-1930
 Donkey Boiler Fee ... £ : : When received,
 Travelling Expenses (if any) £ 1 : 16 : 3. 11. 1930

Committee's Minute FRI. 26 JUN 1931

Assigned See F.B. Rpt.

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