

REPORT ON OIL ENGINE MACHINERY.

No. 20914

Received at London Office

MAR 22 1939

Date of writing Report 4-2-39 When handed in at Local Office 18-3-1939 Port of Greenock

No. in Survey held at Greenock Date, First Survey 11th April 1938 Last Survey 17-3-1939
 Reg. Book 88802 on the MS "Karis" Number of Visits 77

Single MS "Karis" Screw vessel Tons Gross 8500
 Double MS "Karis"
 Triple MS "Karis"
 Quadruple MS "Karis"

Built at Greenock By whom built Blythwood Steel Co. Ltd. Yard No. 53 When built 1939
 Engines made at Greenock By whom made J. & W. McCaig & Co. Ltd. Engine No. 1120 When made 1939
 Donkey Boilers made at ditto By whom made ditto Boiler No. K120 When made 1939
 Brake Horse Power 3000 Owners Western Oil Shipping Co. Ltd. Port belonging to London
 Nom. Horse Power as per Rule 503 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
 Trade for which vessel is intended Foreign

OIL ENGINES, &c. Type of Engines Diesel Under Piston Subcharge (B&W Type) 4 or 4 stroke cycle 4 Single or double acting Single

Maximum pressure in cylinders 600 lbs Diameter of cylinders 6.50 in Length of stroke 4.00 in No. of cylinders 8 No. of cranks 8

Mean Indicated Pressure 118 lbs/sq in Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 8.44 in Is there a bearing between each crank Yes

Revolutions per minute 114 Flywheel dia. 22.18 in Weight 2.19 tons Means of ignition Compression Kind of fuel used Diesel

Crank Shaft, Solid forged dia. of journals as per Rule 4.41.59 in as fitted 4.60 in Crank pin dia. 4.60 in Crank Webs Mid. length breadth 7.50 in Thickness parallel to axis 2.04 in
Semi built as fitted 4.60 in Mid. length thickness 2.67 in Thickness around eyehole 2.05 in
All built

Flywheel Shaft, diameter as per Rule 4.41.59 in as fitted 4.60 in Intermediate Shafts, diameter as per Rule 12.386 in as fitted 2.4 in Thrust Shaft, diameter at collars as per Rule 13.0065 in as fitted 1.8 in

Tube Shaft, diameter as per Rule 13.636 in as fitted 1.8 in Is the into shaft fitted with a continuous liner Yes

Bronze Liners, thickness in way of bushes as per Rule .42 in as fitted 7/8 in Thickness between bushes as per Rule .54 in as fitted 1.16 in Is the after end of the liner made watertight in the propeller boss Yes If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner Yes

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 Yes

If two liners are fitted, is the shaft lapped or protected between the liners Yes 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 5.0 in

Propeller, dia. 5.0 in Pitch 11.6 in No. of blades 4 Material Bronze whether Moveable No Total Developed Surface 82.6 sq. feet

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

Thickness of cylinder liners 40/48 in Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material lagged If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine Funnel

Cooling Water Pumps, No. 4 Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

Bilge Pumps worked from the Main Engines, No. One Diameter Rotary Stroke 3.5 in Can one be overhauled while the other is at work Yes

Pumps connected to the Main Bilge Line No. and Size 2 (4x8x8) (8x8x10) How driven Steam 1 @ 35 lbs per sq. in Main engine

Is the cooling water led to the bilges Yes If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping arrangements Yes

Ballast Pumps, No. and size 1 - 8x8x10 Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 2 (1 Rotary 10") (1 - 8x8x10")

Are two independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size In Machinery Spaces 3 @ 3 1/2" ; 2 at 2 1/2" (in hold) In Pump Rooms 7 @ 2 1/2"

In Holds, &c. Fore hold 2 @ 2 1/2" ; Fore peak flat 2 @ 2 1/2"

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 2. 5 1/2"

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 Both

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 None

What pipes pass through the deep tanks None 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 None Is it fitted with a watertight door Yes worked from None

If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork None

Main Air Compressors, No. Two No. of stages 2 Diameters 4" & 9 1/4" Stroke 1/2" Driven by Steam Engines

Auxiliary Air Compressors, No. None No. of stages None Diameters None Stroke None Driven by None

Small Auxiliary Air Compressors, No. None No. of stages None Diameters None Stroke None Driven by None

What provision is made for first Charging the Air Receivers Steam driven compressors

Scavenging Air Pumps, No. None Diameter None Stroke None Driven by None

Auxiliary Engines crank shafts, diameter as per Rule None as fitted None No. None Position None

Have the Auxiliary Engines been constructed under special survey None Is a report sent herewith None

AIR RECEIVERS:—Have they been made under survey *yes* Are reports or certificates now forwarded *yes*

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 and cleaned *yes*

Is a drain fitted at the lowest part of each receiver *yes*

Injection Air Receivers, No. _____ Cubic capacity of each _____ Internal diameter _____ thickness _____
 Seamless, lap welded or riveted longitudinal joint _____ Material _____ Range of tensile strength _____ Working pressure _____
 by Rules _____ Actual _____

Starting Air Receivers, No. *2* Total cubic capacity *800 c/f* Internal diameter *5-10 1/4"* thickness *10 1/16"*
 Seamless, lap welded or riveted longitudinal joint *TR.DDS* Material *S* Range of tensile strength *29.33* Working pressure _____
 by Rules *450 lb* Actual *350 lb*

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

Is the donkey boiler intended to be used for domestic purposes only *no*

PLANS. Are approved plans forwarded herewith for Shafting *Yes* Receivers *Yes* Separate Fuel Tanks _____
 (If not, state date of approval) _____
 Donkey Boilers *Yes* General Pumping Arrangements *Sp. Rpt.* Pumping Arrangements in Machinery Space *Yes*
 Oil Fuel Burning Arrangements _____

SPARE GEAR.

Has the spare gear required by the Rules been supplied *Yes*

State the principal additional spare gear supplied *1- Screw shaft fitted with continuous liner (LLOYD'S 9923 W.G.M. 13-12-38)*
1- Cylinder cover + Liner: 1- Piston + Piston Rod: 1- Connecting Rod complete with top & bottom-end Brasses: 1- Crosshead: 1- Guide Shoe:
1- Chain for Cam shaft drive.

The foregoing is a correct description,
 For **JOHN G. KINCAID & CO. LIMITED.**

W. G. Kincaid Director, Manufacturer.

Dates of Survey while building
 During progress of work in shops-- (1938) APRIL 11-12-13-14-15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30-31 MAY 1-2-3-4-5-6-7-8-9-10-11-12-13-14-15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30-31
 During erection on board vessel-- (1939) JAN. 9-11-12-13-14-15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30-31 FEB. 3-6-7-9-13-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30-31
 Total No. of visits *44*

Dates of Examination of principal parts—Cylinders *10-11-38* Covers *10-11-38* Pistons *9-1-39* Rods *9-1-39* Connecting rods *9-1-39*
 Crank shaft *28-12-38* Flywheel shaft _____ Thrust shaft *28-12-38* Intermediate shafts *28-12-38* Tube shaft _____
 Screw shaft *8-12-38* Propeller *8-12-38* Stern tube *6-12-38* Engine seatings *Sp. Rpt.* Engines holding down bolts *13-2-39*
 Completion of fitting sea connections *Sp. Rpt.* Completion of pumping arrangements *2-3-39* Engines tried under working conditions *16-3-39*
 Crank shaft, Material *Steel* Identification Mark *LLOYD'S W.G.M. 110 + all parts No. 1624* Flywheel shaft, Material _____ Identification Mark _____
 Thrust shaft, Material *Steel* Identification Mark *28-12-38 1624* Intermediate shafts, Material *Steel* Identification Marks *LLOYD'S 1624*
 Tube shaft, Material *None* Identification Mark _____ Screw shaft, Material *Steel* Identification Mark *LLOYD'S 3379 W.G.M. 8-12-38*

Is the flash point of the oil to be used over 150° F. *Yes*
 Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with *Yes*
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo *Yes* If so, have the requirements of the Rules been complied with _____
 If the notation for Ice Strengthening is desired, state whether the requirements in this respect have 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.) *These engines have been built under special survey in accordance with the Rules & the approved plans: materials & workmanship are good: they have been properly fitted in the vessel, examined under full power & found satisfactory. The Report on the donkey boiler accompanies this Report.*
This machinery is eligible, in our opinion, to be classed in the Register Book with record 2 LMC - 3.39: Oil Inf.: Shaft CL: 2 DB - 180 lbs.

[6- Plans:— Crank shaft: Propeller shaft: Donkey Boilers: Air Reservoirs: Oil Fuel Installation and Machinery Space Pumping Arrangement.]

The amount of Entry Fee .. £ 6 : - : When applied for,
 Special £ 100 : 3/- : 18th MARCH 1939
 Donkey Boiler Fee £ 22 : - : When received,
 Air Reservoirs £ 8 : 8/- : 22. 3 1939
 Travelling Expenses (if any) _____

For *W. G. Kincaid & Co. Ltd.* Engineer Surveyors to Lloyd's Register of Shipping.

Committee's Minute **GLASGOW 21 MAR 1939**
 Assigned + Lmc 3.39 Oil Inf.
 2 DB - 180 lb.



GLASGOW (The Surveyors are requested not to write on or below the space for Committee's Minute.)

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