

REPORT ON OIL ENGINE MACHINERY.

No. 20623

Received at London Office

16 JAN 1933

Date of writing Report 9-1-33 19 When handed in at Local Office

Port of Hamburg

No. in Survey held at Kiel

Date, First Survey 7-10-1931

Last Survey 3-1-33 19

62818 on the ^{Single} Twin ^{Triple} Screw vessel "Geo. W. McKnight"

Number of Visits 76

Tons { Gross 12442 Net 7097 }

Built at Kiel

By whom built Fried. Krupp Germaniawerft A.G. Yard No. 517 When built 1933

Engines made at Kiel

By whom made ditto Engine No. 4141 When made 1933

Donkey Boilers made at Kiel

By whom made ditto Boiler No. 3803/4 When made 1933

Brake Horse Power 4500

Owners Balt. Amerik. Petrol. Import Co. Port belonging to Danzig

Nom. Horse Power as per Rule 1165

Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

Trade for which vessel is intended Tanker Service

L ENGINES, &c.—Type of Engines Krupp, solid injection 2 or 4 stroke cycle 2 Single or double acting single

Maximum pressure in cylinders 41 kg/cm² Diameter of cylinders 600 mm Length of stroke 1150 mm No. of cylinders 2*6 No. of cranks 6 each

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 1015 mm Is there a bearing between each crank yes

Revolutions per minute 118 Flywheel dia. 2300 mm Weight 7905 kgs Means of ignition Diesel system Kind of fuel used Diesel oil

Crank Shaft, dia. of journals as per Rule 385 mm as fitted 410 mm Crank pin dia. 400 mm with 120 mm cent. hole Crank Webs Mid. length breadth 245 mm Thickness parallel to axis 250 mm Mid. length thickness 250 mm Thickness around eye-hole 180 mm

Flywheel Shaft, diameter as per Rule 385 mm as fitted 400 mm Intermediate Shafts, diameter as per Rule 276 mm as fitted 330 mm Thrust Shaft, diameter at collars as per Rule 290 mm as fitted 400 mm

Tube Shaft, diameter as per Rule as fitted none Screw Shaft, diameter as per Rule 306 mm as fitted 398 mm Is the screw shaft fitted with a continuous liner yes

Bronze Liners, thickness in way of bushes as per Rule 20 mm as fitted 23.5 - 22.8 mm Thickness between bushes as per rule 18 mm as fitted 18 mm 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 no Length of Bearing in Stern Bush next to and supporting propeller 1971 mm

Propeller, dia. 4250 mm Pitch 3720 mm No. of blades 3 Material Bronze whether Moveable yes Total Developed Surface 4.39 sq. m

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

bread Thickness of cylinder liners 55 mm tapered to 37.5 mm Are the cylinders fitted with safety valves yes Are the exhaust pipes and oilways water-tight 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 yes

Cooling Water Pumps, No. 8, each of 50 cm³, 1 spare of 230 cm³ 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. 2 Diameter 215 mm Stroke 200 mm Can one be overhauled while the other is at work yes

Pumps connected to the Main Bilge Line No. and Size 2 main 1 and 180 x 210 mm 100 cm³ How driven in shaft by wheel gear steam 300 1 spare: 34 cm³, 170 x 200 525 steam 100

Stripper pump: 310 x 220 mm 580 360 x 40 x 380 470 cm³ Lubricating Oil Pumps, including Spare Pump, No. and size 2 rotary cog wheel 18 cm³ each

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 4 of 90 mm φ, 1 of 125 mm φ Chain locker: 1 x 70 mm φ, form store rooms: 1 x 70 mm φ

in Holds, &c. Cofferdam 1 x 125 φ, pump room 3 x 80 mm φ, form pump room: 1 x 70 mm φ, cargo hold: 2 x 70 mm φ

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 x 125 mm φ

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

and 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 & cocks

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 heating coils, Bilge Line Cofferdam How are they protected

What pipes pass through the deep tanks cargo lines only 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 mach. aft Is it fitted with a watertight door worked from

on 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. solid injection No. of stages 1 Diameters Stroke Driven by

Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters 280/240 mm Stroke 330 mm Driven by steam engine

Small Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters 70/130 mm Stroke 120 mm Driven by steam engine

Scavenging Air Pumps, No. 3 each engine Diameter 690 mm Stroke 1150 mm Driven by 1-3-5 cross

Auxiliary Engines crank shafts, diameter as per Rule Deutsche Herft's Standard type (Steam engine) as fitted 25-85 mm HEADS TO BRACKETS

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

Are the internal surfaces of the receivers be examined yes What means are provided for cleaning their inner surfaces manholes & doors

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

Whistle Air Receivers, No. 1 Cubic capacity of each 1.5 m³ Internal diameter 800 mm thickness 8 mm

Starting Air Receivers, No. 2 Total cubic capacity 36 m³ Internal diameter 1950 mm thickness 26 mm

Material O.H. Steel Range of tensile strength 35-41 kg/cm² Working pressure by Rules 14 kg/cm²

Material O.H. Steel Range of tensile strength 42-53 kg/cm² Working pressure by Rules 25-35 kg/cm²

IS A DONKEY BOILER FITTED? *Yes* If so, is a report now forwarded? *yes*
 PLANS. Are approved plans forwarded herewith for Shafting *12-6-31, 28-7-31, 26-8-31* Receivers *1-2-32, 8-6-32* Separate Tanks *none*
 (If not, state date of approval)
 Donkey Boilers *21-3-32, 28-5-32* General Pumping Arrangements *12-5-32* Oil Fuel Burning Arrangements *12-5-32*

SPARE GEAR
All spare parts as required by the Rules have been supplied and a considerable number of parts in addition.

The foregoing is a correct description,
FRIED. KRUPP
GERMANIAWERFT
 Aktiengesellschaft
 Manufacturer.

Dates of Survey while building
 During progress of work in shops -- 1931: I 7, 23, 27 II 3, 24 III 8, 15 1932: I 5, 8, 12, 15, 29 II 12, 23, III 4, 8, 11, 15, 18, 22, 25, 29 IV 1, 5, 8, 12, 15, 18, 22, 25, 29 V 6, 10, 13, 18, 24, 27, 31 VI 3, 12, 21 VII 1, 5, 12, 15, 19, 22, 25, 26, 29 VIII 4, 9, 12, 16
 During erection on board vessel -- 1932: VII 24, VIII 14, 21, 27 IX 4, 14, 24, X 2, 8, 11, 17, 18, 22, 25, 29, XI 2, 6, 12, 15, 16, 23 1933: I 3
 Total No. of visits *76*

Dates of Examination of principal parts -- Cylinders *1/18-4-32, 8/22-5-32* Covers *12-7-32, 5-32* Pistons *9-8-32* Rods *4-8-32* Connecting rods *28-6-32*
 Crank shafts *5-4-32, 19-7-32* Flywheel shafts *6-4-32, 19-7-32* Thrust shafts *5-4-32, 22-7-32* Intermediate shafts *22-7-32* Tube shaft *✓*
 Screw shafts *22-7-32, 9-8-32* Propellers *12-8-32* Stern tubes *19-7-32* Engine seatings *22-7-32* Engines holding down bolts *24-10-32*
 Completion of filling sea connections *9-8-32* Completion of pumping arrangements *8-11-32* Engines tried under working conditions *29-11-32*

Crank shafts Material *O.H. Steel* Identification Mark *J.L. 9389/90, 13.1.32* Flywheel shafts Material *O.H. Steel* Identification Mark *See Thrust shafts*
 Thrust shafts Material *O.H. Steel* Identification Mark *J.L. 9391, 13.1.32* Intermediate shafts, Material *O.H. Steel* Identification Marks *440D'S, J.L. 9570, 17.6.32*
 Tube shaft, Material *✓* Identification Mark *✓* Screw shafts Material *O.H. Steel* Identification Mark *MB 9701, 6.6.32, 440D'S, J.L. 9570, 17.6.32, MB 9700, 6.6.32, R.S. 1447, 30.6.32*

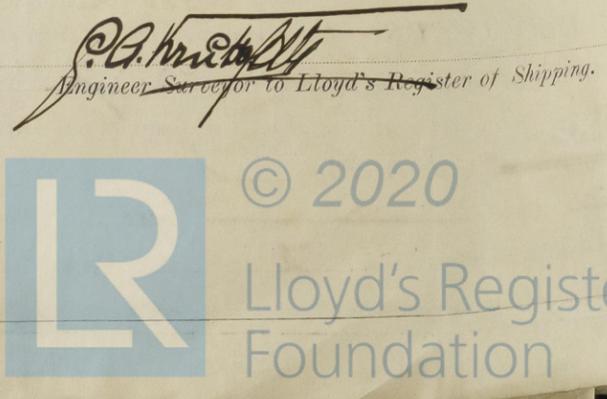
Is the flash point of the oil to be used over 150° F. *yes*
 Have the requirements of the Rules for oil fuel pipes and tank fillings been complied with *yes*
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo *tanker* If so, have the requirements of the Rules been complied with *yes*
 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.)
Material and workmanship of this machinery are of good quality and the outfit is ample. The materials in the construction are made at works recognized by the Committee and have been tested by the Surveyors in compliance with the requirements of the Rules. It has been constructed under Special Survey in accordance with the approved plans, the Secretary's Letters and otherwise in compliance with the requirements of the Rules. During extensive trial trips the machinery has given full satisfaction under full working and manœuvring conditions. In my opinion the machinery is eligible for notation of: ✕ LMC - 1,33 oil Engines and Tail Shafts (C.L.)

Note: - All approved plans have been retained and will be transmitted after completion of the Builder's No. 518.

The amount of Entry Fee ...	£ 6 : 0 0	When applied for,
Special ...	£ 129 : 2 6	19...
Donkey Boiler Fee ...	£ 37 : 13 0	When received,
Air Receivers	8 : 8 0	
Travelling Expenses (if any)	£ 85 : 16 6	10-2-19-33

Committee's Minute *TUE. 24 JAN 1933*
 Assigned *+ L.M.C. 1.33, 2 D.B. (a) 200 lb. C.L., 2 D.B. 100 lb. Oil Eng.*



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