

# REPORT ON OIL ENGINE MACHINERY.

No. 19427  
15 NOV 1930  
14 JUL 1930

Mdb rpt 14269

Date of writing Report 12<sup>th</sup> July 1930 When handed in at Local Office

Port of HAMBURG

Survey held at KIEL

Date, First Survey 20<sup>th</sup> January 1930 Last Survey 7<sup>th</sup> July 1930

08 Sup. on the Twin Screw vessel "F. H. BEDFORD JR"

Tons Gross 11952  
Net 6831

built at HAVERTON HILL on TEES By whom built FURNESS SHIPBUILDING CO LTD. Yard No. 176 When built 1930

engines made at KIEL By whom made FRIED. KRUPP GERMANIA WERFT AG Engine No. 3868 When made 1930

boilers made at Glasgow By whom made Babcock & Wilcox Boiler No. 6/1258 When made 1930

Indicated Horse Power 2 x 2500 Owners STANDARD SHIPPING CO Port belonging to Danzig

nom. Horse Power as per Rule 1496 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

Trade for which vessel is intended Carrying Petroleum in Bulk - 57 3/16

CRANK ENGINES, &c. Type of Engines KRUPP DIESEL ENGINES 2 or 4 stroke cycle 4 Single or double acting single

Maximum pressure in cylinders 35 kg/cm<sup>2</sup> Diameter of cylinders 680 mm Length of stroke 1300 mm No. of cylinders 6 x 2 = 12 No. of cranks 6 x 2 = 12

Distance between bearings, adjacent to the Crank, measured from inner edge to inner edge 1010 mm Is there a bearing between each crank yes

Revolutions per minute 90 Flywheel dia. 2300 mm Weight 9000 kgs Means of ignition Diesel principle Kind of fuel used Diesel oil

Crank Shaft, dia. of journals as per Rule 450 mm as fitted 450 mm Crank pin dia. 450 mm Crank Webs Mid. length breadth 275 R, 425 R Thickness parallel to axis 280 mm

Intermediate Shafts, diameter as per Rule 13.5 as fitted Thrust Shaft, diameter at collars as per Rule as appx. as fitted 440 mm

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

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

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

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

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

Thickness of cylinder liners 50 mm Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled or lagged with

insulating 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

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

Large Pumps worked from the Main Engines, No. Diameter Stroke Can one be overhauled while the other is at work

Pumps connected to the Main Bilge Line No. and Size How driven

Ballast Pumps, No. and size Lubricating Oil Pumps, [including Spare Pump] No. and size one of rotary type 22 m<sup>3</sup> p. hour attached to each main motor

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

Holds, &c.

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size

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

Are 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

Are 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

How are they protected Have they been tested as per Rule

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

partment to another Is the Shaft Tunnel watertight 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

Auxiliary Air Compressors, No. 2 No. of stages 3 Diameters 800/700/175 Stroke 900 mm Driven by main motor

Auxiliary Air Compressors, No. 2 No. of stages 3 Diameters 320/280/80 Stroke 300 mm Driven by Aux. motor

Reversing Air Pumps, No. 3 on each main motor Diameter 800 mm Stroke 1300 mm double acting Driven by main motor

Auxiliary Engines crank shafts, diameter as per Rule 167 mm as fitted 175 mm cranks pins 170 mm

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 fitted with manholes or covers

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

High Pressure Air Receivers, No. 2 Cubic capacity of each 300 litres Internal diameter 400 mm thickness 18 mm

Are they seamless, lap welded or riveted longitudinal joint seamless Material S.M. Steel Range of tensile strength 46-52 kg/cm<sup>2</sup> Working pressure by Rules 93 kg/cm<sup>2</sup>

Low Pressure Air Receivers, No. 5 Total cubic capacity 13500 litres Internal diameter 1120 mm thickness 36 mm

Are they seamless, lap welded or riveted longitudinal joint seamless Material S.M. Steel Range of tensile strength 46-52 kg/cm<sup>2</sup> Working pressure by Rules 74 kg/cm<sup>2</sup>

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

PLANS. Are approved plans forwarded herewith for Shafting crank shaft 6.12.29 Receivers 4.1.30 Separate Tanks   
(If not, state date of approval)

Donkey Boilers  General Pumping Arrangements  Oil Fuel Burning Arrangements

SPARE GEAR All articles as required by Section 6, page 117 of the Rules for Construction and Survey of Diesel Engines and their Auxiliaries (1929-30) have been supplied with

The foregoing is a correct description,

**FRIED. KRUPP  
GERMANIAWERFT**  
Aktiengesellschaft

*[Signature]* Manufacturer.

1930  
Dates of Survey while building { During progress of work in shops -- Jan. 20, Feb. 3, 28, March 7, 12, 26, April 7, 9, 14, 16, 23, 28, May 2, 7, 12, 15, 19, 22, 28, June 2, 4, 11, 18, 25, 27, 30, July 2, 4, 7.  
During erection on board vessel --  
Total No. of visits 39

Dates of Examination of principal parts—Cylinders 23/4, 28/4 Covers 22/5, 18/6 Pistons 12/5 Rods 12.5 Connecting rods 9.5

Crank shaft 16.4 Flywheel shaft 16.4 Thrust shaft 16.4 Intermediate shafts  Tube shaft

Screw shaft  Propeller  Stern tube  Engine seatings  Engines holding down bolts

Completion of fitting sea connections  Completion of pumping arrangements  Engines tried under working conditions

Crank shaft, Material S. M. Steel Identification Mark LLOYD'S J.L. 7358/59/60. 11.3.30 in one with Thrust shaft LLOYD'S J.L. 7358, 31.3.30  
Flywheel shaft, Material S. M. Steel Identification Mark J.L. 7567/68/69. 17.4.30

Thrust shaft, Material  Identification Mark  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. yes

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 yes If so, state name of vessel Polgarolite Finner Yard # 131

General Remarks (State quality of workmanship, opinions as to class, &c. The parts surveyed here are:

Port & Starb. Main Engines, 2 Aux. Diesel Engine Sets with Generator & Air Compressor, 2 Blast Air Receivers, 5 Harting Air Receivers, and all the spare parts.

The Machinery has been built under Special Survey in accordance with the approved Plans of the Secretary's Office and otherwise in accordance with the requirements of the Rules. Materials and workmanship are of good quality. The Materials used in the construction are made at works recognised by the Committee and listed by the Loc. Surveyors.

The Machinery is eligible in my opinion for notation of \* LMC Oil Engines with date subject to satisfactory installation on board and examination under working and manoeuvring condition.

The Engines have been shipped to Haverton Hill on Tues

The amount of Entry Fee ... £ 4/5 : 114 : 14 : 12.7.1930  
Special ... £ 4/5 : 114 : 14 : 12.7.1930  
Donkey Boiler Fee ... £ : : 6 Aug 1930  
Travelling Expenses (if any) £ 14 : 6 : 6 Aug 1930

Committee's Minute

Assigned

See Ind. J.C. 14269

*[Signature]*  
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 Minutes)