

REPORT ON OIL ENGINE MACHINERY.

No. 21578

Received at London Office - 5 JUL 1935

Date of writing Report 13/6/35 10 When handed in at Local Office 10 Port of Hamburg

No. in Survey held at Kiel Date, First Survey 21/9/34 Last Survey 17/6/35 19  
Reg. Book. Number of Visits 55

on the Single Triple Quadruple Screw vessel "W. B. Walker" Tons Gross 10468 Net 6137

built at Kiel By whom built Fried. Krupp Germania Lloyd A.G. Yard No. 834 When built 1935  
Engines made at Kiel By whom made ditto Engine No. 4220 When made 1935  
Main Boilers made at Kiel By whom made ditto Boiler No. 3559/69 When made 1935  
Indicated Horse Power 3600 Owners Standard Vacuum Oil Co. Ltd. Port belonging to Hongkong  
Nominal Horse Power as per Rule 912 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes  
Type for which vessel is intended Tanker Trade

ENGINES, &c. Type of Engines Krupp 15522 (Archaeus type) 2 or 4 stroke cycle 2 Single or double acting single  
Maximum pressure in cylinders 45 kg/cm<sup>2</sup> Diameter of cylinders 650 mm Length of stroke 1250 mm No. of cylinders 8 No. of cranks 8  
Pitch of bearings, adjacent to the Crank, measured from inner edge to inner edge 1005 mm Is there a bearing between each crank yes

Revolutions per minute 110 Flywheel dia. 2240 mm Weight 5270 kgz. Means of ignition Diesel syst. Kind of fuel used Diesel oil  
Crank Shaft, dia. of journals as per Rule 408 mm as fitted 430 mm Crank pin dia. 420 mm Crank Webs Mid. length breadth 270 mm Mid. length thickness 270 mm Thickness parallel to axis 270 mm Thickness around eye-hole 188 mm

Intermediate Shafts, diameter as per Rule 329 mm as fitted 352 mm Thrust Shaft, diameter at collars as per Rule 346 mm as fitted 430 mm  
Main Shaft, diameter as per Rule 408 mm as fitted 430 mm Screw Shaft, diameter as per Rule 365 mm as fitted 398/400 mm Is the shaft fitted with a continuous liner yes

Propeller Liners, thickness in way of bushes as per Rule 20 mm as fitted 23 mm Thickness between bushes as per Rule 15 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

Is 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  
If 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 2000 mm

Propeller, dia. 5200 mm Pitch 3400 mm No. of blades 4 Material Bronze whether Moveable yes Total Developed Surface 8.7 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  
Is the 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

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  
Cooling Water Pumps, No. 4 main, chain-wheel driven Is the sea suction provided with an efficient strainer which can be cleared within the vessel yes  
Are special arrangements made for dealing with cooling water if discharged into bilges

Bilge Pumps worked from the Main Engines, No. 1 Diameter 225 mm Stroke 210 mm Can one be overhauled while the other is at work  
No. and Size 1 of 225 x 210 mm 60 mm 1 of 88 mm 230 x 210 300 1 of 106 mm 390 x 260 450 mm  
How driven int. shaft by chain wheel gear steam duplex steam duplex

Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 1 of 480 x 330 500  
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 3 of 470 mm 500 In Pump Room aft: 2 x 100 mm

Holds, &c. In four pump rooms: 2 x 80 mm, cargo hold: 2 x 60 mm, main deck: 1 x 60 mm, fore store room: 2 x 60 mm  
Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 x 260 mm

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

Are all Sea Connections fitted direct on the skin of the ship yes Are they fitted with Valves or Cocks valves and 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  
How are they protected 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

Is 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. 1 solid injection No. of stages 2 Diameters 2 x 240, 2 x 200 Stroke 255 mm Driven by Steam engine

Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters 160/75 mm Stroke 150 mm Driven by Steam engine  
Small Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters 160/75 mm Stroke 150 mm Driven by Steam engine  
Exhausting Air Pumps, No. 4 Diameter 780 mm Stroke 1250 mm Driven by 1-2-5-7 gear leads

Auxiliary Engines crank shafts, diameter as per Rule 90 mm as fitted 90 mm Position Engine room, port side fore.  
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 and cleaned yes Is a drain fitted at the lowest part of each receiver yes  
High Pressure Air Receivers, No. 1 Cubic capacity of each 28 m<sup>3</sup> Internal diameter 1300 mm thickness 26 mm  
Working pressure by Rules 30 kg/cm<sup>2</sup> Actual 28 kg/cm<sup>2</sup>

Are the low pressure Air Receivers, No. 2 Total cubic capacity 28 m<sup>3</sup> Internal diameter 1300 mm thickness 26 mm  
Working pressure by Rules 30 kg/cm<sup>2</sup> Actual 28 kg/cm<sup>2</sup>



IS A DONKEY BOILER FITTED?

yes, 3

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 13/8/34 27/8/34

Receivers 2/1/35

Separate Tanks part of ship's st

Donkey Boilers 21/9/34 22/2/35 15/1/35 4/2/35

General Pumping Arrangements 7/10/34, 5/3/35

Oil Fuel Burning Arrangements 14/6/35

### SPARE GEAR.

Has the spare gear required by the Rules been supplied.

yes

State the principal additional spare gear supplied

~~1 piston with rod, 1 piston crown, 1 cylinder cover, 2 cylinder liners, 1 connecting rod, 1 crank throw without journals, 1 set of piston cooling water pipes, 2 top end brasses, 2 bottom end brasses, 24 thrust block pads, 1 piston compl. with skirt, 2 piston crowns, 2 crosshead oil pumps, 2 main bearing bushes, 2 cylinder liners, 2 cylinder covers without valves, 1 fuel inj. valve, 1 starting valve, 1 safety valve, 1 Archauloff pump cylinder with all working parts, 1 armatur with shaft for turn gear.~~

For manuv. compressor: 1 main bearing, 1 bottom end brass, 1 gudgeon pin with bush, 1 piston compl., 2 air coolers, 1 valve chest, 1 cylinder liner, 1 LP cylinder cover.

A considerable number of parts for all types of pumps.

The foregoing is a correct description.

**FRIED. KRUPP  
GERMANIAWERKE**

Manufacturer.

Dates of Survey while building  
During progress of work in shops - 1934 Sept: 21, 25, 28 Oct: 2, 5, 9, 12, 19, 23 Nov: 2, 13, 23, 27, Dec: 11, 18, 1935 Jan: 2, 4, 8, 14, 16, 25 Feb: 1, 5, 8, 12, 15, 22, 26  
During erection on board vessel - Apr: 21, 26, May: 3, 7, 19, 17, 21, 24, 28, 31 June: 3, 4, 7, 11, 14, 17 Mar: 1, 5, 12, 15, 19, 22, 24, 29 Apr: 4, 9, 12  
Total No. of visits 55

Dates of Examination of principal parts - Cylinders 5-8-12-15/3/35 Covers 15/3/35 Pistons 2/1/35 Rods 5/2/35 Connecting rods 1/3/35

Crank shaft 5/2/35 Flywheel shaft 5/2/35 Thrust shaft 5/2/35 Intermediate shafts 22/3/35 Tube shaft

Screw shaft 22/3/35 Propeller 4/4/35 Stern tube 19/3/35 Engine seatings on tank top Engines holding down bolts 7/5/35

Completion of fitting sea connections 4/4/35 Completion of pumping arrangements 31/5/35 Engines tried under working conditions 17/6/35

Crank shaft, Material O.H. Steel Identification Mark 4637 J.Q. 2571/35 Flywheel shaft, Material O.H. Steel Identification Mark 4638 J.Q. 2571/35

Thrust shaft, Material O.H. Steel Identification Mark 4639 J.Q. 2571/35 Intermediate shafts, Material O.H. Steel Identification Marks 4640 J.Q. 2571/35

Tube shaft, Material Identification Mark Screw shaft, Material O.H. Steel Identification Mark 4641 J.Q. 2571/35

Is the flash point of the oil to be used over 150° F. yes

Spare: 4696 J.Q. 19/2

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 oil tanker

If so, have the requirements of the Rules been complied with yes

If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with

main

Is this machinery duplicate of a previous case yes

If so, state name of vessel

"G.S. Walden"

General Remarks (State quality of workmanship, opinions as to class, &c.)

Materials and workmanship of this machinery are of good quality and the outfit is ample. The materials used in the construction are made at works recognized by the Committee and have been tested by the Society's Surveyors in compliance with the Society's Rules. It has been constructed in accordance with the Special Survey in accordance with the approved plans, the Secretary's Letters and otherwise in compliance with the requirements of the Rules. During the trial trip the machinery has given full satisfaction under full working and manoeuvring conditions. In my opinion the machinery is eligible for notation of

LMC-6,35 (oil Eng) and TS(CL)

The amount of Entry Fee 244 £ 120.-

Special ... £ 2412.-

Donkey Boiler Fee ... £ 804.-

Travelling Expenses (if any) £ 304.-

When applied for,

7.7.1935

When received,

9.10.35

Committee's Minute

FRI. 12 JUL 1935

Assigned

+ Linc. 6.35

358. 200th

Engineer-Surveyor to Lloyd's Register of Shipping.



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