

# REPORT ON OIL ENGINE MACHINERY.

No. 1040.

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pt. 4b

When handed in at Local Office 5th Febr. 1928

Port of Bremen

Date, First Survey 24th Nov. 1925 Last Survey 1st Febr. 1928

Number of Visits 76

in Survey held at Vegorack and Bremen

on the Twin Screw vessel "TWIN SC" C.O. STILLMAN

Tons Gross 16486 Net 9649

By whom built Bremer Vulkan Yard No. 646 When built 1925-28  
By whom made Bremer Vulkan Engine No. 66-71 When made 1925-28  
By whom made Friedr. Schupp, Germania Werft Boiler No. 72-77 When made 1926  
Owners International Petroleum Co. Ltd. Port belonging to Toronto

Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ade for which vessel is intended Ocean going carrying Petroleum in bulk

ENGINES, &c. Type of Engines Oil Engines, Type: Bremer Vulkan - M.B. 2 or 4 stroke cycle 2 Single or double acting single

imum pressure in cylinders 35 kg/cm<sup>2</sup> Diameter of cylinders 700 mm Length of stroke 1200 mm No. of cylinders 2 x 6 = 12 No. of cranks 2 x 6 = 12

olutions per minute 90 Flywheel dia. 2500 mm Weight 9820 kgf. Means of ignition air-injection Kind of fuel used gas-oil

ank Shaft, dia. of journals as per Rule 452 mm as fitted 460 mm Crank pin dia. 460 mm Crank Webs Mid. length breadth 295 mm Mid. length thickness 295 mm Thickness parallel to axis 295 mm Thickness around eye-hole 212.5 mm

wheel Shaft, diameter as per Rule 452 mm as fitted 455 mm Intermediate Shafts, diameter as per Rule 381 mm as fitted 366 mm Thrust Shaft, diameter at collars as per Rule 352 mm as fitted 455 mm

be Shaft, diameter as per Rule 381 mm as fitted 381 mm Is the tube screw shaft fitted with a continuous liner Yes

onze Liners, thickness in way of bushes as per Rule 20 mm as fitted 22 mm Thickness between bushes as per Rule 15 mm as fitted 18.5 mm Is the after end of the liner made watertight in the

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

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

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

of the tube shaft No Length of Bearing in Stern Bush next to and supporting propeller 1520 mm

opeller, dia. 5170 mm Pitch 4350 mm No. of blades 3 Material bronze whether Moveable Yes Total Developed Surface 7.06 sq. ft.

ethod 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 40 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with

ust pipe water cooled If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine Yes

Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

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

umps connected to the Main Bilge Line No. and Size 2 fly wheel 86 m<sup>3</sup> per hour each, 1 fly wheel 46 m<sup>3</sup> per hour

allast Pumps, No. and size 2 fly wheel each 23 m<sup>3</sup> per hour Lubricating Oil Pumps, including Spare Pump, No. and size 2-25 m<sup>3</sup> and 1-40 m<sup>3</sup> per hour

re two independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

umps, No. and size:—In Machinery Spaces 6 of 90 mm. dia. 4 (with) of 90 x 100 mm. dia. 1 of 150 mm. dia. 1 in after

Holds, &c. in each hold: 1 of 260 mm. dia. x 1 of 100 mm. dia. in each main hold 1 of 150 mm. dia. 1 in after

ndependent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 2-150 mm. dia. each. for peak 140 mm. dia.

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

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

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

re 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

re 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

That pipes pass through the bunkers Yes How are they protected

That pipes pass through the deep tanks Yes Have they been tested as per Rule Yes

re all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes

s 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 Yes Is the Shaft Tunnel watertight Yes Is it fitted with a watertight door worked from

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

ain Air Compressors, No. 2 No. of stages Three Diameters 250/750/160 mm. Stroke 650 mm. Driven by main engine

uxiliary Air Compressors, No. 2 No. of stages Three Diameters 200/340/80 mm. Stroke 250 mm. Driven by aux. twin engine

small Auxiliary Air Compressors, No. 1 No. of stages Two Diameters 120/45 mm. Stroke 60 mm. Driven by elec. motor

icavenging Air Pumps, No. 2 x 2 double acting Diameter 1050 mm. Stroke 1800 mm. Driven by main engine

uxiliary Engines crank shafts, diameter as per Rule 187 mm. as fitted 200 mm. Driven by steam driven fitted 840

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

an the internal surfaces of the receivers be examined Yes What means are provided for cleaning their inner surfaces manhole and flange

s there a drain arrangement fitted at the lowest part of each receiver Yes

High Pressure Air Receivers, No. 2 (3 amp) Cubic capacity of each 200 (20) liter Internal diameter 417 (152) mm thickness 18 (6.5) mm

eamless, lap welded or riveted longitudinal joint Material S.M. steel Range of tensile strength 55-61.38 Working pressure by Rules 106 (87) kg/cm<sup>2</sup>

Starting Air Receivers, No. 6 Total cubic capacity 16330 m<sup>3</sup> Internal diameter 1000 mm thickness 35 mm

eamless, lap welded or riveted longitudinal joint Material S.M. steel Range of tensile strength 45-53 kg/cm<sup>2</sup> Working pressure by Rules 65 kg/cm<sup>2</sup>

Foundation



IS A DONKEY BOILER FITTED? *yes* 2 WT. DB. If so, is a report now forwarded? *yes*  
PLANS. Are approved plans forwarded herewith for Shafting *16/10/25, 5/11/25, 18/2/26* Receivers *31/3, 13/4, 11/6, 19/7/26* Separate Tanks *14/6/27*  
Donkey Boilers *26/1/26, 9/5/27* General Pumping Arrangements *20/5/27* Oil Fuel Burning Arrangements *2/8/27, 20/5/27.*  
SPARE GEAR *As per Rules.*

The foregoing is a correct description,

**BREMEN VULKAN**

*Schiffbau und Maschinenbau*

Manufacturer.

Dates of Survey while building  
During progress of work in shops--  
During erection on board vessel--  
Total No. of visits *76*

Dates of Examination of principal parts—Cylinders *1926: 7/1, 24/1, 1/5, 25/6* Covers *1926: 24/1* Pistons *1926: 7/1, 25/6* Rods *1/5/26* Connecting rods *10/5/26*

Crank shaft *20/4/26* Flywheel shaft Thrust shaft *5/8/26* Intermediate shafts *5/8/26* Tube shaft

Screw shaft *5/8/26* Propeller *10/9, 25/10, 27* Stern tube *10/9, 25/10, 27* Engine seatings *5/10, 13/2, 27* Engines holding down bolts *13/12/27*

Completion of fitting sea connections *21/11/27* Completion of pumping arrangements *21/11/28* Engines tried under working conditions *1/2/28*

Crank shafts Material *J. M. Steel* Identification Mark *11.8.4.26* Flywheel shaft, Material Identification Mark *11.8.4.26*

Thrust shaft, Material *J. M. Steel* Identification Mark *22.26.27.4.26* Intermediate shafts, Material *J. M. Steel* Identification Marks *11.8.4.26*

Tube shaft, Material Identification Mark Screw shafts Material *J. M. Steel* Identification Marks *11.8.4.26*

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 *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.)

*Three Diesel Engines and their accessories have been constructed under Special Survey in accordance with the approved plans and instructions and in conformity with the Rules. The materials used in the construction and the workmanship are good. The main engine and the auxiliaries have been tried under working conditions and were found to work well.*

*In my opinion the three Diesel Engines and their accessories are eligible to be classed in the Register Book with the notation of + L.M.C. 2.28, C.L., Oil Engines.*

The amount of Entry Fee ... £ *6.0* When applied for, *14/2 1928*  
Special ... £ *139.17/6*  
Donkey Boiler Fee ... £ *17.12* When received, *5.3.28*  
Travelling Expenses (if any) £ *24.8*  
Committee's Minute *TUES. 6 MAR 1928*  
Assigned *+ L.M.C. 2.28 C.L. Oil Engines 2 wt. DB 250 lbs*

