

REPORT ON OIL ENGINE MACHINERY.

No. 1824.
28 SEP 1936

Received at London Office

Date of writing Report 22nd Sept. 1936 When handed in at Local Office

Port of BREMEN

No. in Survey held at VEGESACK
Reg. Book.Date, First Survey 12th Aug 1935 Last Survey 3rd Sept. 1936
Number of Visits 4785438 on the ^{Single}
^{Triple}
^{Quadruple} Screw vessel TANKER

TORNUS

Tons Gross 8054
Net 4756

Built at VEGESACK By whom built BREMER VULKAN Yard No. 722 When built 1936

Engines made at VEGESACK By whom made BREMER VULKAN Engine No. 381/389 When made 1936

Donkey Boiler made at VEGESACK By whom made BREMER VULKAN Boiler No. 778 When made 1936

Brake Horse Power 3500 Owners SARAWAK OILFIELDS, LD. Port belonging to MIRI

Nom. Horse Power as per Rule 502 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

Trade for which vessel is intended TANKER TRADE 25 7/16 55 1/8

OIL ENGINES, &c.—Type of Engines BREMER VULKAN—MAN. KVV 65/140 2 or 4 stroke cycle 4 Single or double acting single

Maximum pressure in cylinders 45 kg/cm² ✓ Diameter of cylinders 650 mm ✓ Length of stroke 1400 mm ✓ No. of cylinders 8 ✓ No. of cranks 8 ✓Mean Indicated Pressure 8.5 kg/cm² ✓ Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 844 mm ✓ Is there a bearing between each crank yes ✓

Revolutions per minute 120 ✓ Flywheel dia. 2100 mm ✓ Weight 5500 kg ✓ Means of ignition direct principle Kind of fuel used diesel oil

Crank Shaft, dia. of journals as per Rule 445 mm ✓ as fitted 460 mm ✓ Crank pin dia. 460 mm ✓ Crank Webs Mid. length breadth shrunk Thickness parallel to axis 267/290 mm ✓ Mid. length thickness Thickness around eye hole 205 mm ✓

Flywheel Shaft, diameter as per Rule 445 mm ✓ as fitted 460 mm ✓ Intermediate Shafts, diameter as per Rule 325 mm ✓ as fitted 470 mm ✓ Thrust Shaft, diameter at collars as per Rule 342 mm ✓ as fitted 460 mm ✓

Tube Shaft, diameter as per Rule as fitted ✓ Screw Shaft, diameter as per Rule 360 mm ✓ as fitted 420 mm ✓ Is the tube screw shaft fitted with a continuous liner yes ✓

Bronze Liners, thickness in way of bushes as per Rule 18.5 mm ✓ as fitted 23 mm ✓ Thickness between bushes as per rule 14 mm ✓ as fitted 17 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 one length ✓

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 fit tightly ✓

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

shaft no ✓ If so, state type ✓ Length of Bearing in Stern Bush next to and supporting propeller 1630 mm ✓

Propeller, dia. 4575 mm ✓ Pitch 3660 mm ✓ No. of blades 4 Material bronze whether Moveable solid Total Developed Surface 6.416 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 forced

Thickness of cylinder liners 45 mm ✓ 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 to funnel ✓

Cooling Water Pumps, No. 2 ✓ 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 rotary stroke 35 1/4 in Can one be overhauled while the other is at work yes, the valves

Pumps connected to the Main Bilge Line No. and Size One general service pump 8" x 8" x 10", 75 t/h ✓ How driven by steam ✓

Is the cooling water led to the bilges no ✓ If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping arrangements ✓

Ballast Pumps, No. and size one above general service pump ✓ Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 8" x 8" x 10", 75 t/h ✓

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 of 90 mm ✓ In Pump Room 1 of 80 mm ✓

Holds, &c. four cargo space 3 of 57 1/2 in, in fore Pump Room 1 of 57 1/2 in ✓ Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size One of 180 mm ✓ one of 150 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

fitted 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 fitted in steel casing ✓ 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 2 scupper pipes ✓ How are they protected strong steel pipes, lined with 10 kg/cm² ✓

What pipes pass through the deep tanks ✓ 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 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 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 ✓

In Air Compressors, No. Solid Injection No. of stages — Diameters — Stroke — Driven by —

Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters 210/85 mm Stroke 180 mm Driven by Steam Engine ✓

Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters 210/85 mm Stroke 180 mm Driven by heavy oil Engine ✓

Scavenging Air Pumps, No. — Diameter — Stroke — Driven by —

Auxiliary Engines crank shafts, diameter as per Rule as fitted 100 mm ✓ 160 mm ✓ 110 mm ✓ 85 mm ✓

AIR RECEIVERS:—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*

STARTING
High Pressure Air Receivers, No. *2*

Cubic capacity of each *100 lbs.*

Internal diameter

thickness

Seamless, lap welded or riveted longitudinal joint *seamless*

Material *P.M. Steel*

Range of tensile strength

Working pressure

by Rules

Actual

Starting Air Receivers, No. *2*

Total cubic capacity *23 m³*

Internal diameter *1550/1500 2*

thickness *21 2*

Seamless, lap welded or riveted longitudinal joint *seamless*

Material *P.M. Steel*

Range of tensile strength *47-53 kg/cm²*

Working pressure

by Rules

Actual

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* 10.11.34

(If not, state date of approval)

Receivers 19.6.35

Separate Tanks 16.1.36

Donkey Boilers 19.6.35

General Pumping Arrangements 8.11.35

Oil Fuel Burning Arrangements 23.11.35

SPARE GEAR.

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

State the principal additional spare gear supplied

*2 cylinder covers, 2 pistons, 1 connecting rod, 1 crankshaft,
1 guide shoe, 4 cylinder liners, 7 exhaust valves, 1 inlet valve, 1 starting valve,
2 fuel pumps complete, 4 fuel valves, 2 telescopic coupling pipes.*

The foregoing is a correct description,

Bremer Vulkan

Schiffbau und Maschinenfabrik

Manufacturer.

Dates of Survey while building
During progress of work in shops - *Aug. 12, Sept. 10, Oct. 1, 11, 18, 22, 25, 30, Nov. 11, Dec. 11, 1935; Feb. 24, March 14, 17, 21, April 4, 9, 16, 21, 27, May 11, 18, 25, 29, June 9, 12, 18, 22, 25, 29, July 2, 8, 13, 21, 1936.*
During erection on board vessel - *July 13, 23, 28, 30, Aug. 3, 6, 11, 13, 17, 19, 21, 26, 28, Sept. 1, 3, 1936.*
Total No. of visits *47*

Dates of Examination of principal parts—Cylinders *25.2.36* Covers *9.6.36* Pistons *21.7.36* Rods *18.6.36* Connecting rods *29.6.36*

Crank shaft *21.4.36* Flywheel shaft *9.4.36* Thrust shaft *9.4.36* Intermediate shafts *9.4.36* Tube shaft *29.5.36*

Screw shaft *27.7.36* Propeller *13.7.36* Stern tube *12.6.36* Engine seatings *13.7.36* Engines holding down bolts *30.7.36*

Completion of fitting sea connections *13.7.36* Completion of pumping arrangements *1.9.36* Engines tried under working conditions *3.9.36*

Crank shaft, Material *P.M. Steel* Identification Mark *LLOYD'S J.B. 4935/6* Flywheel shaft, Material *P.M. Steel* Identification Mark *AC. 9.4.36*

Thrust shaft, Material *P.M. Steel* Identification Mark *LLOYD'S H.B. 30.11.35* Intermediate shafts, Material *P.M. Steel* Identification Marks *AC. 9.4.36*

Tube shaft, Material *P.M. Steel* Identification Mark *AC. 2.7.36* Screw shaft, Material *P.M. Steel* Identification Mark *H.B. 9.30.11.35*

Is the flash point of the oil to be used over 150° F. *yes* SPARE *AC. 2.7.36*

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 *tanker* If so, have the requirements of the Rules been complied with *no*

If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with *no ice strengthening*

Is this machinery duplicate of a previous case *yes* If so, state name of vessel *ALEXIA, GENOTA, GADILA, TARON*

General Remarks (State quality of workmanship, opinions as to class, &c. *This Machinery has been built under*

Special Survey in accordance with the apppr. plans, the Secretary's letters, and with

the requirements of the Rules. The materials used in the construction are made

at works recognized by the Committee and tested by the Port Surveyor.

Materials & workmanship are of good quality. During a 8 hours trial

trip all the Machinery has been tried under full working & manoeuvring

condition and found satisfactory in all respects.

This machinery is eligible in my opinion to be classed in the Port

*Reg. Book with record of: * LMC 9.36, OIL ENGINE, TAIL SHAFT CL.*

The amount of Entry Fee *RM 120.-* When applied for, *9.9.1936*

Special *RM 2002.-* When received, *5.10.1936*

Donkey Boiler Fee *RM 334.-*

2 STARTING AIR RECEIVERS *RM 168.-*

Travelling Expenses (if any) *RM 188.-*

Committee's Minute *FRI. 2 OCT 1936*

Assigned *+ Lmc 9.36*

D.B. 180b. C.L. oil engines.

A. Carstensen
Engineer Surveyor to Lloyd's Register of Shipping.



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Foundation