

REPORT ON OIL ENGINE MACHINERY.

No. 2040.

Received at London Office

NOV 17 1938

Date of writing Report 14 Nov 1938 When handed in at Local Office

Port of BREMEN

Date, First Survey 30 Jan. 1938 Last Survey 21 Nov. 1938

No. in Survey held at VEGESACK
Reg. Book.

Number of Visits 72

Tons { Gross 8106
Net 478172256 on the Single
Triple Screw vessel TANKER

DIALA

Built at VEGESACK

By whom built BREMER VULKAN

Yard No. 757 When built 1938

Engines made at VEGESACK

By whom made BREMER VULKAN

Engine No. 540/2 When made 1938

Donkey Boiler made at VEGESACK

By whom made BREMER VULKAN

Boiler No. 843 When made 1938

Brake Horse Power 3500

Owners ANGLO SAXON PETROLEUM CO LD.

Port belonging to LONDON

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 OPEN SEA SERVICE

OIL ENGINES, &c. Type of Engines WITH WORKSHOP SUPERCHARGING BREMER VULKAN - MAN. KVV 68/140 2 or 4 stroke cycle 4 Single or double acting single

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

Revolutions per minute 120 Flywheel dia. 2100 Z Weight 5500 kg Means of ignition Direct priming Kind of fuel used Diesel oil

Crank Shaft, { Solid forged as per Rule 445 Z Crank pin dia. 460 Z Crank Webs Mid. length breadth shrunk Thickness parallel to axis 267/290

{ Semi built dia. of journals as fitted 460 Z Mid. length thickness Thickness around eye-hole 205 Z

{ All built as per Rule 445 Z Intermediate Shafts, diameter as per Rule 325 Z Thrust Shaft, diameter at collars as per Rule 342 Z

Flywheel Shaft, diameter as fitted 460 Z as fitted 470 Z as fitted 460 Z

Tube Shaft, diameter as per Rule 360 Z Is the { tube } shaft fitted with a continuous liner { yes

Screw Shaft, diameter as fitted 420 Z as fitted 14 Z Is the after end of the liner made watertight in the

Bronze Liners, thickness in way of bushes as per Rule 18.5 Z Thickness between bushes as fitted 17 Z

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 1620 Z

Propeller, dia. 4575 Z Pitch 3660 Z No. of blades 4 Material bronze whether Moveable solid Total Developed Surface 6,410 sq. ft

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 Z 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 no

Cooling Water Pumps, No. 2 driven by 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 m³/h Can one be overhauled while the other is at work yes

Pumps connected to the Main Bilge Line { No. and Size One general service pump 8" x 8" x 10" 75 1/2

{ How driven 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 no above

Ballast Pumps, No. and size general service pump Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size One 8" x 8" x 10" 75 1/2

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 Z In Pump Rooms 1 of 80 Z

In Holds, &c. from cargo space 3 of 50 Z; in fore pump room 1 of 50 Z

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 of 180 Z; 1 of 150 Z

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

led 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 on 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 bunks 1 suction pipe from offside How are they protected strong steel pipes

What pipes pass through the deep tanks 2 scupper pipes Have they been tested as per Rule tested with 5 kg/cm²

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

If 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. none No. of stages 2 Diameters 210/85 Z Stroke 180 Z Driven by Steam Engine

Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters 210/85 Z Stroke 180 Z Driven by Heavy Oil Engine

Small Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters 210/85 Z Stroke 180 Z Driven by Heavy Oil Engine

What provision is made for first Charging the Air Receivers Steam compressor

Scavenging Air Pumps, No. 1 Diameter 110 Z Stroke 180 Z Driven by

Auxiliary Engines crank shafts, diameter as per Rule 110 Z Position Engine Room

as fitted 110 Z Is a report sent herewith yes

Have the Auxiliary Engines been constructed under special survey yes

AIR RECEIVERS:—Have they been made under survey *yes* Are reports or certificates now forwarded *yes*
 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
Injection Air Receivers, No. *2* Cubic capacity of each *1 75 lbs.* Internal diameter *2 55* thickness *5.9, 6.5 2*
 Seamless, lap welded or riveted longitudinal joint *seamless* Material *P.M. Steel* Range of tensile strength *58.1/58.4 kg.* Working pressure *by Rules 46.3 & 18.2 lb.*
Starting Air Receivers, No. *2* Total cubic capacity *23 m³* Internal diameter *1550/1500* thickness *8 1 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 25 kg/cm²*
 Actual *25*

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 *3.2.37, 13.3.37* Receivers *12.1.37* Separate Fuel Tanks *18.1.38*
 (If not, state date of approval)
 Donkey Boilers *12.1.38* General Pumping Arrangements *30.6.38* Pumping Arrangements in Machinery Space *18.1.38*
 Oil Fuel Burning Arrangements *18.1.38* Plans retained for dealing with sister vessel *Princess Vulture 773*
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; 2 cylinder liners; 1 connecting rod; 1 crosshead; 1 guide shoe; 7 exhaust valves; 1 inlet valve; 1 Hasting valve; 4 fuel valves; 2 fuel pumps compl. 10 telescopic cooling pipes;*

The foregoing is a correct description,

Princess Vulture
Schiffbau und Maschinenfabrik

Manufacturer.

Dates of Survey while building
 During progress of work in shops-- *Jan. 3, Feb. 15, 17, 28, March 10, 14, 18, 22, 24, 30, April 1, 4, 8, 20, 23, 26, 29, May 5, 9, 12, 16, 18, 21, 25, 30, June 1, 2, 4, 7, 9, 15*
 During erection on board vessel-- *June 20, 23, 27, July 1, 4, 6, 8, 13, 15, 19, 26, 28, Aug. 1, 9, 12, 16, 24, 30, Sept. 1, 6, 12, 20, 23, 24*
 Total No. of visits *72*

Dates of Examination of principal parts—Cylinders *25/5, 16, 20/38* Covers *1/24/7.38* Pistons *15.6.38* Rods *15.6.38* Connecting rods *4.7.38*
 Crank shaft *4.4.38* Flywheel shaft *30.3.38* Thrust shaft *30.3.38* Intermediate shafts *12.8.38* Tube shaft *—*
 Screw shaft *12.8.38, 20.9.38* Propeller *12.9.38* Stern tube *4.6.38* Engine sealings *12.9.38* Engines holding down bolts *10.10.38*
 Completion of fitting sea connections *12.9.38* Completion of pumping arrangements *28.10.38* Engines tried under working conditions *2.11.38*
 Crank shaft, Material *P.M. Steel* Identification Mark *LLOYD'S V.S. 1326/7* Flywheel shaft, Material *P.M. Steel* Identification Mark *LLOYD'S V.S. 830, 16.8.37*
 Thrust shaft, Material *P.M. Steel* Identification Mark *LLOYD'S H.K. 677, 11.8.37* Intermediate shafts, Material *P.M. Steel* Identification Marks *LLOYD'S V.S. 950, 10.9.37*
 Tube shaft, Material *—* Identification Mark *—* Screw shaft, Material *P.M. Steel* Identification Mark *LLOYD'S H.B. 2658, 22.9.37*
 spare *V.S. 12.8.38, V.S. 957, 10.9.37, AC. 20.9.38*

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 *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 *no Ice Strengthening*
 Is this machinery duplicate of a previous case *yes* If so, state name of vessel *TORNUS*

General Remarks (State quality of workmanship, opinions as to class, &c. *The Machinery of this vessel has been built under Special Survey in accordance with the appr. plans, the Pendants letters and in conformity with the requirements of the Rules. The Materials used in the construction are made at works recognised by the Committee and tested by the Port Surveyors, with exception of the connecting rods which have been of the Germanischer Lloyd but are accepted as per London letter E. 42 13th 7.38. Materials and workmanship are of good quality. During 2 trial trips all the machinery has been tested under full working and manovering condition and found satisfactory in all respects.*

This machinery is eligible in my opinion to be classed in the Port.
 Reg. Book with records of: *✱ LMC 11.38. OIL ENGINE. TAIL SHAFT C.L.*

The amount of Entry Fee *RM 120,-* When applied for, *11.11.1938*
 Special *£1 2002,-*
 Donkey Boiler Fee *£1 334,-* When received, *2/12/1938*
 2 STARTING AIR RECEIVERS *£1 168,-*
 Travelling Expenses (if any) *£1 288,-*

Committee's Minute

Assigned

+ LMC 11.38 CL

DB 18 lb

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



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Certificate (if required) to be sent to Registrar of Shipping

(The Surveyors are requested not to write on or below the space for Committee's Minute.)