

# REPORT ON MACHINERY.

Sou. Report No. 11075  
No. 8475.

Date of writing Report **1 APR 1921** When handed in at Local Office **1 APR 1921** Port of **London & Southampton**  
 No. in Survey held at **Newbury** Date, First Survey **17<sup>th</sup> June 1920** Last Survey **10<sup>th</sup> March 1921**  
 Reg. Book. on the **Kromhout Motor M358** M.V. **"PHILO"** (Number of Visits **12**) Gross **332.47** Tons Net **208.93**  
 Master Built at **Yorport** By whom built **Camp & Nicholsons Ltd** When built **1921**  
 Engines made at **Newbury** By whom made **Plentydon Ltd** when made **1921**  
 Boilers made at \_\_\_\_\_ By whom made \_\_\_\_\_ when made \_\_\_\_\_  
**BRAKE** Registered Horse Power **180** Owners **British Oil Bunkering Co. Ltd** Port belonging to **London**  
 Nom. Horse Power as per Section 28 **51.4** Is Refrigerating Machinery fitted for cargo purposes **No** Is Electric Light fitted **yes**

**ENGINES, &c.**—Description of Engines **Kromhout Motor, 2 stroke cycle** No. of Cylinders **4** No. of Cranks **4**  
 Dia. of Cylinders **335 $\frac{1}{2}$**  Length of Stroke **350 $\frac{1}{2}$**  Revs. per minute **300** Dia. of Screw shaft as per rule **143.6 $\frac{1}{4}$**  Material of screw shaft as fitted **6 $\frac{1}{2}$ "** **steel**  
 the screw shaft fitted with a continuous liner the whole length of the stern tube **no liner** Is the after end of the liner made water tight  
 the propeller boss  If the liner is in more than one length are the joints burned  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  If two  
 liners are fitted, is the shaft lapped or protected between the liners  Length of stern bush **2'-0"**  
 Dia. of Tunnel shaft as per rule **124.7** Dia. of Crank shaft journals as per rule **122.2 $\frac{1}{2}$**  Dia. of Crank pin **135 $\frac{1}{2}$**  Size of Crank webs **76.7 $\frac{1}{2}$**  Dia. of thrust shaft under  
 bars **130 $\frac{1}{2}$**  Dia. of screw **4-9"** Pitch of Screw **3'-6"** No. of Blades **4** State whether moveable **no** Total surface **809 ft**  
 No. of Feed pumps  Diameter of ditto  Stroke  Can one be overhauled while the other is at work   
 No. of Bilge pumps **one** Diameter of ditto **109 $\frac{1}{2}$**  Stroke **65 $\frac{1}{2}$**  Can one be overhauled while the other is at work   
 No. of Donkey Engines **one** Sizes of Pumps **Rotary-plunger type** No. and size of Suctions connected to both Bilge and Donkey pumps  
 Engine Room **2-2" and 1-2 $\frac{1}{2}$ "** In Holds, &c. **1-2"**  
 No. of Bilge Injections  sizes  Connected to condenser, or to circulating pump  Is a separate Donkey Suction fitted in Engine room & size **yes 2"**  
 Are all the bilge suction pipes fitted with roses **yes** Are the roses in Engine room always accessible **yes** Are the sluices on Engine room bulkheads always accessible   
 Are all connections with the sea direct on the skin of the ship **yes** Are they Valves or Cocks **Both**  
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates **yes** Are the Discharge Pipes 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 are carried through the bunkers  How are they protected   
 Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times **yes**  
 Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges **yes**  
 Is the Screw Shaft Tunnel watertight  Is it fitted with a watertight door  worked from

**BOILERS, &c.**—(Letter for record \_\_\_\_\_) Manufacturers of Steel \_\_\_\_\_

Total Heating Surface of Boilers	Is Forced Draft fitted	No. and Description of Boilers
Working Pressure	Tested by hydraulic pressure to	Date of test
Can each boiler be worked separately	Area of fire grate in each boiler	No. of Certificate
Each boiler	Area of each valve	Pressure to which they are adjusted
Smallest distance between boilers or uptakes and bunkers or woodwork	Mean dia. of boilers	Length
Thickness	Range of tensile strength	Are the shell plates welded or flanged
Long. seams	Diameter of rivet holes in long. seams	Pitch of rivets
Percentage of strength of longitudinal joint	Working pressure of shell by rules	Size of manhole in shell
Size of compensating ring	No. and Description of Furnaces in each boiler	Material
Length of plain part	Thickness of plates	Description of longitudinal joint
Working pressure of furnace by the rules	Combustion chamber plates: Material	Thickness: Sides
Pitch of stays to ditto: Sides	Back	Top
Material of stays	Area at smallest part	Area supported by each stay
Material	Thickness	Pitch of stays
Area at smallest part	Area supported by each stay	Working pressure by rules
Thickness	Material of Lower back plate	Thickness
Diameter of tubes	Pitch of tubes	Material of tube plates
Pitch across wide water spaces	Working pressures by rules	Girders to Chamber tops: Material
Thickness of girder at centre	Length as per rule	Distance apart
Working pressure by rules	Steam dome: description of joint to shell	% of strength of joint
Diameter	Thickness of shell plates	Material
Pitch of rivets	Working pressure of shell by rules	Crown plates

**SUPERHEATER.** Type \_\_\_\_\_ Date of Approval of Plan \_\_\_\_\_ Tested by Hydraulic Pressure to \_\_\_\_\_  
 Date of Test \_\_\_\_\_ Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler \_\_\_\_\_  
 Diameter of Safety Valve \_\_\_\_\_ Pressure to which each is adjusted \_\_\_\_\_ Is Easing Gear fitted \_\_\_\_\_

IS A DONKEY BOILER FITTED?

yes

If so, is a report now forwarded?

yes

SPARE GEAR. State the articles supplied:— 1 Glinder case. 6 Piston rings. 1 Top end bush. 4 Ignition plates. 1 Governor spring. 2 lengths of fuel pipes. 1 fuel pump. 2 Bottom-end bolts & nuts. 1 Eccentric strap. 1 set of bilge pump valves. 1 set of circ. pump valves. 12 Coupling bolts. 2 leather valves for crank ca

The foregoing is a correct description,

W. D. Plenty LIMITED

Manufacturer.

Dates of Survey while building: During progress of work in shops (1920) Jun 17, July 7, 15, Aug 19, Sep 8, 15, 29, Oct 14, Nov 11 (1921) Jan 27, FEB 15, MAR 10. During erection on board vessel: 31st May, 7th July, 23rd Sept, 19th Oct, 3rd Nov, 1921. Total No. of visits: 2 and 6. Is the approved plan of main boiler forwarded herewith: yes

Dates of Examination of principal parts: Cylinders 8.9.20 Slides ✓ Covers 15.9.20 Pistons 14.10.20 Rods ✓ Connecting rods 14.10.20 Crank shaft 10.5.20 Thrust shaft 7.7.20 Tunnel shafts 16.2.21 Screw shaft 15.2.20 Propeller 15.2.21 Stern tube 15.2.20 Steam pipes tested ✓ Engine and boiler seatings 31-5-21 Engines holding down bolts 19-10-21 Completion of pumping arrangements 19-10-21 Boilers fixed ✓ Engines tried 3-11-21 Completion of fitting sea connections 23-9-21 Stern tube 23-9-21 Screw shaft and propeller 19-10-21 Main boiler safety valves adjusted ✓ Thickness of adjusting washers ✓ Material of Crank shaft Steel Identification Mark on Do. Material of Thrust shaft Steel Identification Mark on Do. Material of Tunnel shafts Steel Identification Marks on Do. Material of Screw shafts Steel Identification Marks on Do. Material of Steam Pipes ✓ Test pressure ✓

Is an installation fitted for burning oil fuel IN DONKEY BOILER. Yes. Is the flash point of the oil to be used over 150°F. yes

Have the requirements of Section 49 of the Rules been complied with. yes

Is this machinery duplicate of a previous case. ✓ If so, state name of vessel. ✓

General Remarks (State quality of workmanship, opinions as to class, &c. Engines constructed under survey material tested, workmanship good. Cylinders, cylinder heads tested to 400 + all jackets & silencers tested to 100 lbs per sq inch hydraulic & found tight also. Two fuel tanks (as per approved plan) tested by hydraulic pressure to 13 ft head & found tight. Two (2) air bottles tested to 1000 lbs per sq inch & found tight. All above stamped JRB. Engines examined on test bench running & governing satisfactory. Engines stated forwarding to Messrs Camper & Nicholson's L<sup>td</sup> Report Southampton to be fitted on board a vessel building by them.

The above engine has been efficiently fitted on board and on trial proved satisfactory. The machinery is eligible in my opinion to have notation + L.M. The report on the Electric Light Installation will be forwarded when received from the Contractors.

The amount of Entry Fee ... £ 2 : 0 : 0 When applied for, APR 1921. Special ... £ 15 : 0 : 0 When received, APR 1921. Donkey Boiler Fee ... £ : : Travelling Expenses (if any) £ 3 : 11 : 1 14 April 1921. SOUTHAMPTON " £ 2 : 7 : 7 8/11/21. Committee's Minute TUE. 15 NOV. 1921. Assigned + L.M.B. 11.21 oil engines.

Thomas Blackie & A.A. Boyd Engineer Surveyor to Lloyd's Register of Shipping.



MACHINERY CERT WRITTEN.

Certificate (if required) to be sent to The Surveyors are requested not to write on or below the space for Committee's Minutes.