

# REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office 20 MAY 1926

Date of writing Report 19 When handed in at Local Office 19 MAY 1926 Port of Sunderland

No. in Survey held at Sunderland Date, First Survey Decr. 14 '25 Last Survey May 13 1926  
 Reg. Book. on the S.S. "TOAS" (Number of Visits 31)

Built at Newcastle By whom built Palmer Co Ltd Yard No. 961 Tons Net When built 1926

Engines made at Sunderland By whom made MacCall & Pollock Engine No. 350 when made 1926

Boilers made at Sunderland By whom made MacCall & Pollock Boiler No. 350 when made 1926

Registered Horse Power \_\_\_\_\_ Owners Gulf Refining Co Port belonging to \_\_\_\_\_

Norm. Horse Power as per Rule 192 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

**ENGINES, &c.—Description of Engines.** Triple Expansion ✓

No. of Cylinders 19-30-49 Length of Stroke 36 Revs. per minute 87 No. of Cylinders 3 No. of Cranks 3 ✓

Dia. of Crank shaft journals as per rule 9.892 as fitted 10 Dia. of Crank pin 10 Crank webs Mid. length breadth 14 3/4 Thickness parallel to axis 6 1/2 ✓  
 as fitted 10 Mid. length thickness 6 1/2 shrunk Thickness around eye-hole 4 7/8 ✓

Diameter of Thrust shaft under collars as per rule 9.892 as fitted 10 Diameter of Tunnel shaft as per rule 9.42 as fitted None fitted Diameter of Screw shaft as per rule 10.463 as fitted 10 1/4 Is the Screw shaft fitted with a continuous liner the whole length of the stern tube Yes 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 joints burned Yes ✓ If the liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with plastic material insoluble in water and non-corrosive Yes ✓

If two liners are fitted, is the shaft lapped or protected between the liners Yes Is an approved appliance fitted at the after end of the shaft to permit it being efficiently lubricated Yes ✓

Length of Stern Bush 43 ✓ Diameter of Propeller 12-6 ✓

Size of Propeller 12-4 1/2 ✓ No. of Blades 4 ✓ State whether Moveable Yes ✓ Total Surface 58 square feet.

No. of Feed Pumps fitted to the Main Engines 2 ✓ Diameter of ditto 2 3/4 ✓ Stroke 21 ✓ Can one be overhauled while the other is at work Yes ✓

No. of Bilge Pumps fitted to the Main Engines 2 ✓ Diameter of ditto 2 3/4 ✓ Stroke 21 ✓ Can one be overhauled while the other is at work Yes ✓

Total number and size of power driven Feed and Bilge Auxiliary Pumps Two - 4 1/2 x 5 x 8 Double Feed Pumps One 6 x 4 x 12 Bilge & Ballast Pump For'd - One 9 x 10 x 10 Bilge & Ballast Pump Aft ✓

No. and size of Pumps connected to the Main Bilge Line One - 6 x 4 x 12 Bilge & Ballast Pump For'd - One 9 x 10 x 10 Bilge & Ballast Pump Aft ✓

No. and size of Ballast Pumps Aft 9 x 10 x 10 - One ✓ No. and size of Lubricating Oil Pumps, including Spare Pump \_\_\_\_\_

Are two independent means arranged for circulating water through the Oil Cooler Yes ✓ No. and size of suction connected to both Main Bilge Pumps and Auxiliary Pumps;—In Engine and Boiler Room 4 @ 2 3/4 ✓ and in Holds, &c. Dryhold 2 @ 2 3/4 ✓

No. and size of Main Water Circulating Pump Bilge Suctions One @ 5" dia ✓ No. and size of Donkey Pump Direct Suctions \_\_\_\_\_

Are all the Bilge Suction Pipes in holds and tunnel well fitted with strum-boxes Yes ✓

Are the Bilge Suctions in the Machinery Space led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges Yes ✓

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 Below ✓

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 (Nile) ✓

Are all Pipes carried through the bunkers None ✓ 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 ✓

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 Screw Shaft Tunnel watertight apt ✓ Is it fitted with a watertight door \_\_\_\_\_ worked from \_\_\_\_\_

**MAIN BOILERS, &c.—** (Letter for record (S)) Total Heating Surface of Boilers 3452.3 ✓

Is Forced Draft fitted No ✓ No. and Description of Boilers Two - Single ended 25B ✓ Working Pressure 180 lbs ✓

IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes ✓

IS A DONKEY BOILER FITTED? No ✓ If so, is a report now forwarded? \_\_\_\_\_

ANS. Are approved plans forwarded herewith for Shafting Yes ✓ Main Boilers (No. forwarded with report on S.S. ZAFARA) ✓ Auxiliary Boilers Yes ✓ Donkey Boilers Yes ✓

Are all Pumping Arrangements forwarded with Nile ship report. Oil fuel Burning Piping Arrangements forwarded with report on S.S. "ZAFARA" ✓

**SHAFTING AND GEAR.** State the articles supplied:—

2 Top end bolts and nuts ✓	One set of Piston rings
2 Bottom end bolts and nuts ✓	1 Spare screw shaft, 2 Propeller blades (Bronze)
2 Main bearing bolts and nuts ✓	One pair of bottom end brasses
One set of Coupling bolts ✓	One piston rod, One eccentric strap
One set of Feed pump valves & seats ✓	One slide rod, One feed pump ram
One set of Bilge pump valves & seats ✓	One air pump rod.
Assorted bolts and nuts ✓	One impeller shaft.
Oil of various sizes ✓	

The foregoing is a correct description.

J.H. Pelling

Manufacturer.



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1925. Dec. 14, 18, 29. 1926. Jan 7, 19, 29. Feb. 1, 4, 8, 15, 19, 26. Mar. 2, 3, 4, 13, 19, 26. April 12, 20, 27.

Dates of Survey while building

During progress of work in shops -- 27.30

During erection on board vessel --- May. 3, 4, 6, 10, 11, 12, 13.

Total No. of visits 31

Dates of Examination of principal parts - Cylinders 19-2-26 Slides 2-3-26

Covers 1-2-26 Pistons 23-2-26 Rods 8-2-26

Connecting rods 19-2-26 Crank shaft 30-12-25 (Leith) Thrust shaft 8-2-26

Tunnel shafts ✓ Screw shafts 19-3-26 Propeller 24-4-26

Stern tube 19-3-26 Engine and boiler seatings 4-5-26 Engines holding down bolts 10-5-26

Completion of pumping arrangements 19-5-26 Boilers fixed 4-5-26 Engines tried under steam 12-5-26

Completion of fitting sea connections 26-4-26 (N'cle) Stern tube 30-4-26 Screw shaft and propeller 30-4-26

Main boiler safety valves adjusted 12-5-26 Thickness of adjusting washers Pt. 12 1 1/2 5/32 Std. 13 1/2 5/16 5/16

Material of Crank shaft Ingot steel Identification Mark on Do. LLOYDS N° 1295 A.T.T. 30-12-25

Material of Thrust shaft Ingot steel Identification Mark on Do. LLOYDS N° 1291 G.A. 8-2-26

Material of Tunnel shafts none fitted Identification Marks on Do. WORKING LLOYDS N° 1292 G.A. 19-3-26

Material of Screw shafts Ingot steel Identification Marks on Do. SPARE LLOYDS N° 1293 G.A. 19-3-26

Material of Steam Pipes Solid drawn Copper Test pressure 360 lbs sq. Date of Test 3-3-26

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

Have the requirements of the Rules for carrying and burning oil fuel been complied with Yes

Is this machinery duplicate of a previous case Yes If so, state name of vessel S.S. "ZAPARA"

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

The materials and workmanship are good

The machinery has been constructed under special and is eligible in my opinion for classification and the record of + L.M.C 5-26

Fitted for oil fuel 4-26 F.P. above 150°F.

The machinery has been tried under working conditions and the vessel has returned to Messrs Palmer yard for completion.

It is submitted that this vessel is eligible for THE RECORD. + LMC 5. 26. CL. Fitted for oil fuel 5. 26. FP above 150°F.

*W.D. J.W.D.*  
21/5/26

The amount of Entry Fee ... £ 3 : - : When applied for, 1926

Special ... £ 48 : 0 : When received, 1926

Donkey Boiler Fee ... £ : : 1/6/26

Travelling Expenses (if any) £ : 1 : 1/6/26

*George Anderson*  
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute TUES. 8 JUN 1926

Assigned + L.M.C. 5.26 CL Fitted for Oil Fuel 5.26. F.P. above 150°F



SUNDERLAND

Certificate to be sent to  
The Surveyors are requested not to write on or below the space for Committee's Minute.