

# REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

21 SEP 1945

Date of writing Report **16-9-45** When handed in at Local Office **19/9/45** Port of **NEWCASTLE-ON-TYNE**  
 No. in Survey held at **Wallsend** Date, First Survey (1945) **Jan 31** Last Survey **24-8-1945**  
 Reg. Book. on the **4 1/2 "EMPIRE DOMINICA"** (Number of Visits **32**) Gross Tons **7319.37**  
 Built at **Sunderland** By whom built **Short Bros** Yard No. **485** When built **1945-8mo**  
 Engines made at **Glasgow** By whom made **Duncan Stewart & Co** Engine No. **149** When made **1942-10mo**  
 Boilers made at **Barrow in Furness** By whom made **Vickers-Armstrong Ltd** Boiler No. **851** When made **1944-9mo**  
 Registered Horse Power \_\_\_\_\_ Owners **Min. of War Transport.** Port belonging to \_\_\_\_\_  
 Nom. Horse Power as per Rule **510** Is Refrigerating Machinery fitted for cargo purposes **No** Is Electric Light fitted **Yes**  
 Trade for which Vessel is intended **Ocean going**

**ENGINES, &c.**—Description of Engines **3 Cyl. Triple Exp.** Revs. per minute **76**  
 Dia. of Cylinders **24 1/2, 39, 70** Length of Stroke **48"** No. of Cylinders **3** No. of Cranks **3**  
 Crank shaft, dia. of journals as per Rule **See GLASGOW RPT 66182 of Oct 1942** Thickness parallel to axis \_\_\_\_\_  
 as fitted \_\_\_\_\_ Crank pin dia. \_\_\_\_\_ Crank webs \_\_\_\_\_ Mid. length thickness \_\_\_\_\_ Thickness around eye-hole \_\_\_\_\_  
 Intermediate Shafts, diameter as per Rule **13.32** Thrust shaft, diameter at collars as per Rule **13.98**  
 as fitted **13.78** as fitted **14.4**  
 Tube Shafts, diameter as per Rule \_\_\_\_\_ Screw Shaft, diameter as per Rule **14.84** Is the **screw** shaft fitted with a continuous liner **Yes**  
 as fitted \_\_\_\_\_ as fitted **15.4** as fitted \_\_\_\_\_  
 Bronze Liners, thickness in way of bushes as per Rule **24/32** Thickness between bushes as per Rule **18/32** Is the after end of the liner made watertight in the  
 as fitted **13/16** as fitted **21/32** 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 **In one piece**  
 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 **a tight fit**  
 If two liners are fitted, is the shaft lapped or protected between the liners **Yes** 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 **61"**  
 Propeller, dia. **18-3"** Pitch **15-6"** No. of Blades **4** Material **C. Iron** whether Moveable **No** Total Developed Surface **98.5** sq. feet  
 Feed Pumps worked from the Main Engines, No. **2** Diameter **4** Stroke **27"** Can one be overhauled while the other is at work **Yes**  
 Bilge Pumps worked from the Main Engines, No. **2** Diameter **4** Stroke **27"** Can one be overhauled while the other is at work **Yes**  
 INDEPT Feed Pumps { No. and size **2 of 7 1/2 x 2 1/2" & G.S.P. 7 x 9 1/2 x 2 1/2"** Pumps connected to the { No. and size **Ball P. 250 ton/hr, G.S.P. 7 x 9 1/2 x 2 1/2" & 2 of 4 x 2 1/2"**  
 { How driven **by Steam** Main Bilge Line { How driven **by Steam** **40 ton/hr** **each 20 ton/hr** **by M. Eng.**  
 Ballast Pumps, No. and size **one of 10 1/2 x 13 x 24"** Lubricating Oil Pumps, including Spare Pump, No. and size \_\_\_\_\_  
 Are two independent means arranged for circulating water through the Oil Cooler **Yes** Suctions, connected to both Main Bilge Pumps and Auxiliary  
 Bilge Pumps;—In Engine and Boiler Room **1 of 3" Pade ER; 2 of 3" in BRm; 1 of 3" in Thrust Room; 1 of 2 1/2" in Funnel well**  
 In Pump Room **Yes** In Holds, &c. **2 of 3" in each hold**

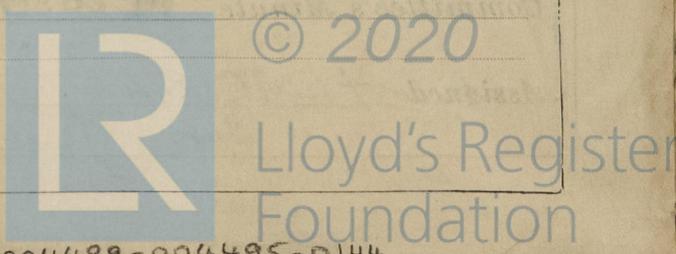
Main Water Circulating Pump Direct Bilge Suctions, No. and size **1 of 9" on Port side** Independent Power Pump Direct Suctions to the Engine Room Bilges,  
 No. and size **1 of 5" on Starboard ER** Are all the Bilge Suction Pipes in holds and tunnel well fitted with strum-boxes **Yes**  
 Are the Bilge 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 Sea Connections fitted direct on the skin of the ship **Yes** Are they fitted with Valves or Cocks **Both**  
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stakehold plates **Yes** Are the Overboard Discharges 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**  
 What Pipes pass through the bunkers **NIL** How are they protected \_\_\_\_\_  
 What pipes pass through the deep tanks **NIL** Have they been tested as per Rule **Yes**  
 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 **Yes** Is it fitted with a watertight door **No** worked from \_\_\_\_\_

MAIN BOILERS, &c.—(Letter for record **S**) Total Heating Surface of Boilers **7248 sq. ft**  
 Which Boilers are fitted with Forced Draft **all** Which Boilers are fitted with Superheaters **all**  
 No. and Description of Boilers **3. S.B. (spr.)** Working Pressure **220 lbs**  
 IS A REPORT ON MAIN BOILERS NOW FORWARDED? **Yes. Barrow Rpt No 3007.**  
 IS A DONKEY BOILER FITTED? **No** If so, is a report now forwarded? \_\_\_\_\_  
 Can the donkey boiler be used for domestic purposes only **Yes**

PLANS. Are approved plans forwarded herewith for Shafting **Standard B Type** Main Boilers **11-9-41 (Barrow)** Auxiliary Boilers \_\_\_\_\_ Donkey Boilers \_\_\_\_\_  
 (If not state date of approval) Superheaters \_\_\_\_\_ General Pumping Arrangements **In machy space 11-4-45 in NEM. 3109 EMPIRE NAIBORI** Fuel Burning Piping Arrangements **Yes**  
**SPARE GEAR.**  
 Has the spare gear required by the Rules been supplied **Yes**  
 State the principal additional spare gear supplied **as specified.**

THE NORTH EASTERN MARINE ENGINEERING CO. (1938) LTD.  
 The foregoing is a correct description.

**John Neill** DIRECTOR. Manufacturer.



004489-004495-0144

Continuation of Machinery of YS EMPIRE DOMINICA.

Dates of Survey while building  
 During progress of work in shops -- (1945) Jan. 31 Feb. 2, 15, 21 Mar. 2, 5, 7, 28, 29, Apr. 5, 6, 10, May 2, 28 June 1, 7, 8, 13, 15, 18, 20 July 9, 10, 12, 16, 20, 31 Aug. 1, 10, 23, 24  
 During erection on board vessel --  
 Total No. of visits 32

Dates of Examination of principal parts—Cylinders *See Glasgow Rpt Slides in 66182 of Oct 1942* Covers  
 Pistons ✓ Piston Rods ✓ Connecting rods ✓  
 Crank shaft ✓ Thrust shaft 7-3-45 Intermediate shafts 7-3-45 & 6-4-45  
 Tube shaft ✓ Screw shaft 7-3-45 Propeller *In works 28-4-45*  
 Stern tube *In works 5-4-45* Engine and boiler seatings 20-6-45 Engines holding down bolts 20-7-45  
 Completion of fitting sea connections 10-4-45. sld.  
 Completion of pumping arrangements 10-8-45 Boilers fixed 20-7-45 Engines tried under steam 10-8-45 + 24-8-45  
 Main boiler safety valves adjusted 10-8-45 Thickness of adjusting washers *PORT P.V. SV. SPT CR RV. SV. SPT STB RV. SV. SPT*  
 Crank shaft material 7. Stl Identification Mark *LLOYDS 10799* Thrust shaft material 7. Stl American. Stl. Identification Mark *HT. 10891-1*  
 Intermediate shafts, material 7. Stl Identification Marks *(No length next THRUSTS.)* Tube shaft, material 5 lengths from U.S.A. SEE LIST BELOW. Identification Mark  
 Screw shaft, material 7. Stl Identification Mark *22-9-41 AW 7-3-45* Steam Pipes, material SD. Stl Test pressure 660 lb Date of Test 2-5-45  
 Is an installation fitted for burning oil fuel No Is the flash point of the oil to be used over 150°F. ✓  
 Have the requirements of the Rules for the use of oil as fuel been complied with ✓  
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo No If so, have the requirements of the Rules been complied with ✓  
 If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with *not desired.*  
 Is this machinery duplicate of a previous case Yes If so, state name of vessel *Empire Nairobi Short Bros. 484 NEMan. No 3109.*  
 General Remarks (State quality of workmanship, opinions as to class, &c.) *also EMPIRE STUART Short Bros 479 NEMan. No 3062*

Intermediate Shafts Nos 5, 6, 7, 8 + 9 from forward are American Steel tested by U.S.N. and are marked as follows:  
 NEMan Shaft No + IDENTIFICATION MARKS  
 No 5 --- NA 683. HT 21800-4 SET 13. No 2.  
 No 6 --- NA 682 HT 10625-4 " 13 " 2.  
 No 7 --- NA 684 HT 10903-2 " 13 " 3.  
 No 8 --- NA 680 HT 20528-2 " 13 " 2.  
 No 9 --- NA 681 HT 21767-4 " 13 " 2.  
 THRUST SHAFT --- HT. 10891-1 " 13 " 4  
 These shafts were check tested for Brinell Hardness by POLDI MACHINE with satisfactory results as shown on Results of Test Sheet.  
 The machinery has been efficiently fitted on board by NEMan. Wellson under their ord no 3111. + the materials and workmanship are good  
 The machinery was satisfactorily tested under working conditions at NEM. Quay and is eligible, in my opinion, for record + LMC. 8.45 and the notations Cl. 3 SB. (Spt) 200lb.

NEWCASTLE-ON-TYNE

Certificate to be sent to

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

The amount of Entry Fee ...	£ Charged at 1/4	When applied for,
Special <i>LTM</i> 5 of 100-10	£ 20! 2/1	20 SEP 1945
plus 25% for Spec	5 0/6	
Donkey Boiler Fee ...	£ :	When received,
Travelling Expenses (if any) £	:	19.....

*A Watt.*  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **FRI. 28 SEP 1945**  
 Assigned + LMC 8.45  
 Spt. F.D. C.L.

