

## REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office  
 Date of writing Report 19 When handed in at Local Office 22 July 1944 Port of Sunderland  
 No. in Survey held at Sunderland Date, First Survey 4 Jan 43 Last Survey 19 Jan 44  
 Reg. Book "EMPIRE TUDOR" (Number of Visits 77)  
 on the Sunderland By whom built Shipland Ltd (New Branch) Yard No. 2  
 Engines made at Lumbarton By whom made B. & B. Bros. Ltd Engine No. 1116 When built 1944  
 Boilers made at Sunderland By whom made G. Clark (1938) Ltd Boiler No. 1304 When made 1944  
 Registered Horse Power Owners Ministry of War Transport Port belonging to Sunderland  
 Nom. Horse Power as per Rule 509.570 Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted No.  
 Trade for which vessel is intended

ENGINES, &c.—Description of Engines. (See Gls. Rpt. No. 64029)  
 Dia. of Cylinders Length of Stroke No. of Cylinders No. of Cranks Revs. per minute  
 Crank shaft, dia. of journals as per Rule 13.33" Crank pin dia. 13.33" Mid. length breadth 13.99" Thickness parallel to axis 13.99"  
 as fitted 13.33" Crank webs shrunk Thickness around eye-hole 13.99"  
 Intermediate Shafts, diameter as per Rule 13.33" Thrust shaft, diameter at collars as fitted 14 1/4"  
 as fitted 13.33" as fitted 14 1/4"  
 Tube Shafts, diameter as per Rule 14.84" Screw Shaft, diameter as fitted 15 1/4" Is the tube screw shaft fitted with a continuous liner No.  
 as fitted 14.84" as fitted 15 1/4"  
 Bronze Liners, thickness in way of bushes as per Rule 13/16" Thickness between bushes as per Rule 2/32" Is the after end of the liner made watertight in the propeller boss No.  
 as fitted 13/16" as fitted 2/32" 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  
 If two liners are fitted, is the shaft lapped or protected between the liners No. Is an approved Oil Gland or other appliance fitted at the after end of the tube at No.  
 If so, state type Length of Bearing in Stern Bush next to and supporting propeller 5'-1"  
 Propeller, dia. 14'-10 1/2" Pitch 15'-3" No. of Blades 4 Material C.I. whether Moveable No. Total Developed Surface 114 3/4 sq. feet  
 Feed Pumps worked from the Main Engines, No. 2 Diameter 4" Stroke 24" Can one be overhauled while the other is at work No.  
 Bilge Pumps worked from the Main Engines, No. 2 Diameter 4" Stroke 24" Can one be overhauled while the other is at work No.  
 Feed Pumps { No. and size 2 @ 4" x 9 1/2" x 21" Pumps connected to the Main Bilge Line { No. and size 1 @ 9 1/2" x 4" x 21" & Ballast Pump.  
 How driven Steam How driven Steam  
 Ballast Pumps, No. and size 1 @ 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 No. Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps: In Engine and Boiler Room 2 @ 3" x 1 @ 2" E.R. 2 @ 3" x 1 @ 2" B.L. 1 @ 2" x 1 @ 2" J. well.  
 In Pump Room No. 5. 3" p.r.s. No. 6. 3" p.r.s. In Holds, &c. No. 1. 3" p.r.s. No. 2. 3" p.r.s. No. 3. 3" p.r.s.  
 Main Water Circulating Pump Direct Bilge Suctions, No. and size 1 @ 9" Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 @ 5"  
 Are all the Bilge Suction Pipes in holds and tunnel well fitted with strum-boxes No.  
 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 No.  
 Are all Sea Connections fitted direct on the skin of the ship No. Are they fitted with Valves or Cocks No.  
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates No. 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 No. Are the Blow Off Cocks fitted with a spigot and brass covering plate No.  
 What Pipes pass through the bunkers For hold bilge Suction How are they protected Wood Casing  
 What pipes pass through the deep tanks none Have they been tested as per Rule No.  
 Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times No.  
 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 No. Is the Shaft Tunnel watertight No. Is it fitted with a watertight door No. (Bilge) at the

MAIN BOILERS, &c.—(Letter for record S. Total Heating Surface of Boilers 4248 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. (Spt.) Working Pressure 220 lb./sq. in.  
 IS A REPORT ON MAIN BOILERS NOW FORWARDED? No.  
 IS A DONKEY BOILER FITTED? No. If so, is a report now forwarded? No.  
 Can the donkey boiler be used for domestic purposes only No.

PLANS. Are approved plans forwarded herewith for Shafting Main Boilers Auxiliary Boilers Donkey Boilers  
 (If not state date of approval)

Superheaters General Pumping Arrangements No. Oil fuel Burning Piping Arrangements

## SPARE GEAR.

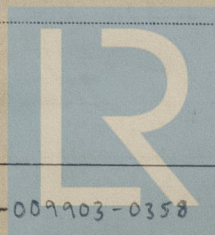
Has the spare gear required by the Rules been supplied No.  
 State the principal additional spare gear supplied

The foregoing is a correct description.

GEORGE CLARK (1938) LTD

Wm. J. P. Barry  
 DIRECTOR GENERAL MANAGER

Manufacturer.



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Lloyd's Register  
 Foundation

009896-009903-0358



During progress of work in shops - - 1943 Jan 4, Apr 2, 5, 28, May 3, 17, June 11, July 8, Aug 11, 12, 23, Sep 2, 24, 28, Oct 7, 14, 21, 26, Nov 3, 5, 12, 17, 19, 22, 23, 24, 26, Dec 10, 15, 17, 20, 21, 29, 30, 1944 Jan 6, 14, 17, 21, 25, 26, 27, 28, Feb 7, 14, 17, 27, 30, Apr 5, 21, 28, May 2, 2, 12, 15, 18, 19, 24, 26, 31, June 5, 7, 8, 9, 12, 14, 16, 19, 21, 22, 23, 26, July 6, 14, 17, 19.

Dates of Survey while building - - During erection on board vessel - - 23, 26, July 6, 14, 17, 19.

Total No. of visits 77

Dates of Examination of principal parts - Cylinders - Slides - Covers -

Pistons - Piston Rods - Connecting rods -

Crank shaft - Thrust shaft 6/1/44 Intermediate shafts 31/5/44.

Tube shaft - Screw shaft 6/1/44 Propeller 6/1/44.

Stern tube 19/5/44 + 5/6/44 Engine and boiler seatings 15/6/44. Engines holding down bolts 19/6/44.

Completion of fitting sea connections 18/5/44.

Completion of pumping arrangements 14/4/44 Boilers fixed 15/6/44 Engines tried under steam 6/4/44 + 17/4/44.

Main boiler safety valves adjusted 6/4/44 Thickness of adjusting washers P.Bh. 3/8" 5/16" C.Bh. 3/8" 5/16" S.Bh. 3/8" 5/16" N° 8044 WNF. 6/1/44.

Crank shaft material - Identification Mark - Thrust shaft material - Identification Mark -

Intermediate shafts, material Ingot Steel Identification Marks N° 3803, 3801, 3809, 3840, 4964 Tube shaft, material - Identification Mark -

Screw shaft, material Ingot Steel Identification Mark N° 8043 31/5/44 P.D. Steel Test pressure 660 lb/sq. in. Date of Test 22/6/44.

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.....If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c. This machinery has been securely fitted on board the vessel, the requirements of the Specification carried out. On completion the machinery has been tried under working conditions alongside quay with satisfactory results. It is now eligible in our opinion to have notation.

20 L.M.C. Y. 44, 3 S.B. (Spl.) F.D. 220 lb/sq. in. T.S. (CL).

The amount of Entry Fee ... £ 6 : : When applied for, 3/5 Special + 3/5 Special 4/5 5 : 22 JUL 1944

Donkey Boiler Fee ... £ : : When received,

Travelling Expenses (if any) £ : : 19

Engine Surveyor to Lloyd's Register of Shipping.

Committee's Minute ... FRI. 28 JUL 1944

Assigned ... + L.M.C. 7.44