

# REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

Date of writing Report 19 Sunderland 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 July 1944  
 Reg. Book "EMPIRE TUDOR" (Number of Visits 77)  
 on the Sunderland Built at Sunderland By whom built Shiplbuilding Corp (Leam Branch) Yard No. 2  
 Engines made at Lumbarton By whom made Wm. Kenny Bros. L. Engine No. 1116 When built 1944  
 Boilers made at Sunderland By whom made G. Clark (1938) L. 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) Revs. per minute  
 Dia. of Cylinders \_\_\_\_\_ Length of Stroke \_\_\_\_\_ No. of Cylinders \_\_\_\_\_ No. of Cranks \_\_\_\_\_  
 Crank shaft, dia. of journals \_\_\_\_\_ as per Rule \_\_\_\_\_ Crank pin dia. \_\_\_\_\_ Crank webs \_\_\_\_\_ Mid. length breadth \_\_\_\_\_ Thickness parallel to axis \_\_\_\_\_  
 as fitted \_\_\_\_\_ Crank webs \_\_\_\_\_ Mid. length thickness \_\_\_\_\_ Thickness around eye-hole \_\_\_\_\_  
 Intermediate Shafts, diameter \_\_\_\_\_ as per Rule \_\_\_\_\_ Thrust shaft, diameter at collars \_\_\_\_\_ as fitted \_\_\_\_\_  
 as fitted \_\_\_\_\_ Tube Shafts, diameter \_\_\_\_\_ as per Rule \_\_\_\_\_ Screw Shaft, diameter \_\_\_\_\_ as fitted \_\_\_\_\_ Is the {tube screw} shaft fitted with a continuous liner {No.} \_\_\_\_\_  
 as fitted \_\_\_\_\_ Bronze Liners, thickness in way of bushes \_\_\_\_\_ as per Rule \_\_\_\_\_ Thickness between bushes \_\_\_\_\_ as fitted \_\_\_\_\_ Is the after end of the liner made watertight in the propeller boss {No.} \_\_\_\_\_  
 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 \_\_\_\_\_ Is an approved Oil Gland or other appliance fitted at the after end of the tube at \_\_\_\_\_ 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. \_\_\_\_\_ Diameter \_\_\_\_\_ Stroke \_\_\_\_\_ Can one be overhauled while the other is at work \_\_\_\_\_  
 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 \_\_\_\_\_ Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps:—In Engine and Boiler Room 2 @ 3" & 1 @ 2" E.R. 2 @ 3" in Bl. Rm. 1 @ 2 1/2" Juncel well.  
 In Pump Room \_\_\_\_\_ In Holds, &c. Nº1. 3" ØRS. Nº2. 3" ØRS. Nº3. 3" ØRS.  
 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 Ball.  
 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 Casings.  
 What pipes pass through the deep tanks \_\_\_\_\_ Have they been tested as per Rule \_\_\_\_\_  
 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. (Bilged) (at sea) worked from \_\_\_\_\_

MAIN BOILERS, &c.—(Letter for record \_\_\_\_\_) 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 SB (Spt.) Working Pressure 220 lbs.  
 IS A REPORT ON MAIN BOILERS NOW FORWARDED? No.  
 IS A DONKEY BOILER FITTED? No. If so, is a report now forwarded? \_\_\_\_\_  
 Can the donkey boiler be used for domestic purposes only \_\_\_\_\_  
 PLANS. Are approved plans forwarded herewith for Shafting \_\_\_\_\_ Main Boilers \_\_\_\_\_ Auxiliary Boilers \_\_\_\_\_ Donkey Boilers \_\_\_\_\_  
 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

*George Clark*  
DIRECTOR & GENERAL MANAGER

Manufacturer.



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Lloyd's Register Foundation

Dates of Survey while building

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

During erection on board vessel - - - 26, 27, 28, 29, 30, 1944 Jan 6, 14, 17, 21, 25, 26, 27, 28

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" 3/16" 5/16" 3/16" 5/16" S.Bh 3/8" 5/16" 3/16" 5/16"

Crank shaft material - Identification Mark - Thrust shaft material Ingot Steel Identification Mark N° 8043 WNF 6/1/44

Intermediate shafts, material Ingot Steel Identification Marks 3803, 3801, 3809, 3840, 4967 Tube shaft, material - Identification Mark -

Screw shaft, material Ingot Steel Identification Mark WNF 6/1/44 Steam Pipes, material S.D. Steel Test pressure 660 lbs/sq. 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% M.C. Y. 44, 3 S.B. (Spl) F.D. 220 lbs/sq. T.S. (CL)

The amount of Entry Fee ... £ 6 : : When applied for, 22 JUL 1944

3/5 Special + specific 4/5 5 : : When received,

Donkey Boiler Fee ... £ : : 19

Travelling Expenses (if any) £ : :

*W. Fraser*  
 Engineer Surveyor to Lloyd's Register of Shipping.

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

Assigned ... +LMC 7.44  
 J.D. CL



Certificate to be sent to SUNDERLAND.

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