

# REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

15 JAN 1944

Date of writing Report 3rd Jan 1944 When handed in at Local Office 8th Jan 1944 Port of Sunderlee  
 No. in Survey held at Sunderlee Date, First Survey 14th Dec 1942 Last Survey 28th Dec 1943  
 Reg. Book 37396 on the S.S. "Empire Canyon" Tons Gross 7058  
 Built at Sunderlee By whom built Calodon S.B. & E. Co. Ltd Yard No. 408 When built 1943  
 Engines made at Wallsend By whom made N.E. Marine Eng. Co. Ltd Engine No. 3065 When made 1943  
 Boilers made at Sunderlee By whom made Calodon S.B. & E. Co. Ltd Boiler No. 408 When made 1943  
 Registered Horse Power 2500 Owners Ministry of War Transport Port belonging to Sunderlee  
 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

## ENGINES, &c.—Description of Engines

Dia. of Cylinders Length of Stroke No. of Cylinders No. of Cranks Revs. per minute  
 Crank shaft, dia. of journals as per Rule as fitted Crank pin dia. Crank webs Mid. length breadth Mid. length thickness Thickness parallel to axis Thickness around eye-hole  
 Intermediate Shafts, diameter as per Rule as fitted Thrust shaft, diameter at collars as per Rule as fitted  
 Tube Shafts, diameter as per Rule as fitted Screw Shaft, diameter as per Rule as fitted Is the { tube screw } shaft fitted with a continuous liner {  
 Bronze Liners, thickness in way of bushes as per Rule as fitted Thickness between bushes as per Rule as fitted Is the after end of the liner made watertight in the propeller boss.  
 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.  
 Propeller, dia. Pitch No. of Blades Material whether Moveable Total Developed Surface 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. Diameter Stroke Can one be overhauled while the other is at work  
 Feed Pumps { No. and size 2 off 7" x 9 1/2" x 21" How driven Steam Pumps connected to the Main Bilge Line { No. and size 1 off 7" x 9 1/2" x 21" & 1 off 10 1/2" x 13" x 24" How driven Steam  
 Ballast Pumps, No. and size 1 off 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 Engine Room 2 off 3" & 1 off 3 1/2" portable to Ballast pump only In Boiler Room 2 off 3"  
 In Pump Room Tunnel well 1 off 2 1/2" In Holds, &c. Nos. 1, 2, 3, 5 & 6. Holds, 2 off 3" each hold  
 Main Water Circulating Pump Direct Bilge Suctions, No. and size 1 off 9" Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 off 5" 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 stokehold 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 none How are they protected Yes  
 What pipes pass through the deep tanks Yes 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 Yes

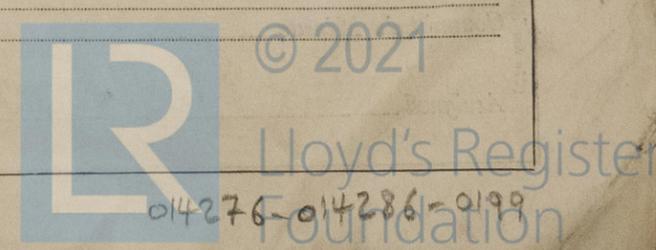
MAIN BOILERS, &c.—(Letter for record S.) Total Heating Surface of Boilers 7248 sq. ft.  
 Which Boilers are fitted with Forced Draft all boilers Which Boilers are fitted with Superheaters all boilers  
 No. and Description of Boilers 3 S.B. Working Pressure 220 lbs per sq. inch  
 IS A REPORT ON MAIN BOILERS NOW FORWARDED? See Sunderlee report No. 9645.  
 IS A DONKEY BOILER FITTED? No If so, is a report now forwarded? Yes  
 Can the donkey boiler be used for domestic purposes only Yes  
 PLANS. Are approved plans forwarded herewith for Shafting Standard B. Main Boilers / 3 lbs No. 593 Auxiliary Boilers Donkey Boilers Yes  
 (If not state date of approval)  
 Superheaters See Boiler report General Pumping Arrangements 11.4.43 Oil fuel Burning Piping Arrangements Yes

SPARE GEAR.  
 Has the spare gear required by the Rules been supplied Standard B. Specification  
 State the principal additional spare gear supplied Yes

FOR AND ON BEHALF OF  
 The foregoing is a correct description

Henry Main  
 Managing Director

Manufacturer.



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During progress of work in shops - - - See Newcastle report No. 101638.  
 1943  
 July 6, 20, 27 Aug. 3, 10, 13, 20, 31 Sept 21, Oct 6, 19, 26 Nov. 29, 23, 30  
 During erection on board vessel - - - Dec 7, 14, 22, 28  
 Total No. of visits 20

Dates of Examination of principal parts - Cylinders ✓ Slides ✓ Covers ✓  
 Pistons ✓ Piston Rods ✓ Connecting rods ✓  
 Crank shaft ✓ Thrust shaft ✓ Intermediate shafts ✓  
 Tube shaft ✓ Screw shaft ✓ Propeller ✓  
 Stern tube ✓ Engine and boiler seatings 2-11-43. Engines holding down bolts 7-12-43.  
 Completion of fitting sea connections 2-11-43.  
 Completion of pumping arrangements 28-12-43. Boilers fixed 30-11-43. Engines tried under steam 28-12-43.  
 Main boiler safety valves adjusted 28-12-43. Thickness of adjusting washers  
 Crank shaft material ✓ Identification Mark ✓ Thrust shaft material ✓ Identification Mark ✓  
 Intermediate shafts, material ✓ Identification Marks ✓ Tube shaft, material ✓ Identification Mark ✓  
 Screw shaft, material Identification Mark E.R.B. 21/10/43 Steam Pipes, material Steel Test pressure 660 lbs Date of Test 22-12-43  
 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 ✓  
 Is this machinery duplicate of a previous case. Yes If so, state name of vessel Standard B. Type

General Remarks (State quality of workmanship, opinions as to class, &c. The machinery of this vessel has been built under Special Survey in accordance with the Rules and approved plans. The materials and workmanship are good. It has been efficiently installed in the vessel, tried under working condition and found satisfactory, and in my opinion is eligible to be classed in the Register Book with the record + L.H.C. 12-43, C.L.

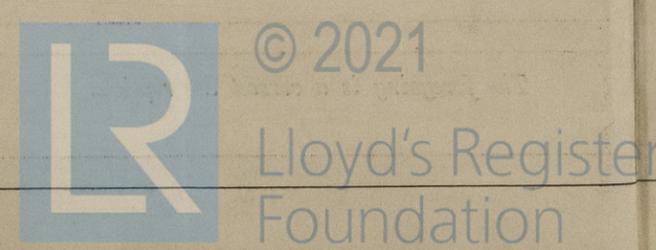
The Specification requirements have been carried out satisfactorily

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|------------------------------|---|---|---|---------------------------|
| The amount of Entry Fee      | £ | : | : | When applied for,         |
| Special <i>fitting out</i>   | £ | : | : | 31 <sup>st</sup> Dec 1943 |
| plus 25% special fee         | £ | : | : |                           |
| Donkey Boiler Fee            | £ | : | : | When received,            |
| Travelling Expenses (if any) | £ | : | : | 19                        |

G. E. Murdoch  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute  
 Assigned -1- Inc 12.43 7D  
 11 JAN 1944



Certificate to be sent to Dundee 10-1-44