

# REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office DEC 23 1938

Date of writing Report 10 When handed in at Local Office 21 DEC 1938 Port of SUNDERLAND.

No. in Survey held at Sunderland Reg. Book. Date, First Survey Aug 5 Last Survey Dec 12 1938 (Number of Visits 35)

Built at Burntisland By whom built Burntisland S.S. Co. Ltd. Yard No. 225 When built 1938

Engines made at Sunderland By whom made N.E. Marine Eng. Co. Ltd. Engine No. 2928 When made 1938

Boilers made at do. By whom made do. Boiler No. do. When made do.

Registered Horse Power Owners Port belonging to

Nom. Horse Power as per Rule 196 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

Trade for which Vessel is intended Coal.

**ENGINES, &c.**—Description of Engines *Triple expansion*

Dia. of Cylinders *16 1/2", 27 1/2", 47"* Length of Stroke *33"* No. of Cylinders *3* Revs. per minute  
 Crank shaft, dia. of journals *as per Rule 9 1/2"* Crank pin dia. *9 1/2"* No. of Cranks *3*  
 Intermediate Shafts, diameter *as per Rule 8.75"* Thrust shaft, diameter at collars *as per Rule 5"*  
 Tube Shafts, diameter *as per Rule* Screw Shaft, diameter *as per Rule 10 3/4"* Is the tube shaft fitted with a continuous liner *no.*  
 Bronze Liners, thickness in way of bushes *as per Rule* Thickness between bushes *as per Rule* Is the after end of the liner made watertight in the propeller boss *no.*  
 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 *no.*  
 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 shaft *yes* If so, state type *Cochran's* Length of Bearing in Stern Bush next to and supporting propeller *31 9/16"*  
 Propeller, dia. *13'-2"* Pitch *13'-0"* No. of Blades *4* Material *C.I.* whether Moveable *not* Total Developed Surface *58* sq. feet  
 Feed Pumps worked from the Main Engines, No. *2* Diameter *2 3/4"* Stroke *16 1/2"* Can one be overhauled while the other is at work *yes*  
 Bilge Pumps worked from the Main Engines, No. *2* Diameter *2 3/4"* Stroke *16 1/2"* Can one be overhauled while the other is at work *yes*  
 Feed Pumps { No. and size *6" x 4 1/4" x 6"; 1, 4" x 2 3/4" x 5"* Pumps connected to the Main Bilge Line { No. and size *2, 9" x 10" x 10"*  
 How driven *Steam* How driven *Steam*  
 Ballast Pumps, No. and size *2, 9" x 10" x 10"* 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 *Eng. Rm. 1 @ 2 1/2" dia. Blp. Rm. 1 @ 2 1/2" dia.*  
 In Pump Room *—* In Holds, &c. *1 @ 3 1/2" in No. 1; 2 @ 3" in No. 2.*

**Main Water Circulating Pump Direct Bilge Suctions, No. and size** *1, 4" dia.* **Independent Power Pump Direct Suctions to the Engine Room Bilges,** *1, 7" dia.*  
 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 *yes*  
 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 *above*  
 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 *—*  
 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 *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 *—* Is it fitted with a watertight door *—* worked from *—*

**MAIN BOILERS, &c.**—(Letter for record *Y*) Total Heating Surface of Boilers *2952 sq. ft.*  
 Which Boilers are fitted with Forced Draft *yes* Which Boilers are fitted with Superheaters *none*  
 No. and Description of Boilers *one cylindrical multistage* Working Pressure *200 lbs.*  
**IS A REPORT ON MAIN BOILERS NOW FORWARDED?** *yes*  
**IS A DONKEY BOILER FITTED?** *yes* If so, is a report now forwarded? *yes*  
 Can the donkey boiler be used for domestic purposes only *—*

**PLANS.** Are approved plans forwarded herewith for Shafting *24/6/38* Main Boilers *yes* Auxiliary Boilers *—* Donkey Boilers *—*  
 Superheaters *—* General Pumping Arrangements *yes* Oil fuel Burning Piping Arrangements *—*

**SPARE GEAR.**  
 Has the spare gear required by the Rules been supplied *yes*  
 State the principal additional spare gear supplied  
*one C.I. propeller.  
 one screw shaft for contracts 2928 & 2929.  
 24 Condenser tubes.*

1938. Aug. 5, Sep. 5, 6, 8, 13, 15, 19, 20, 21, 22, 24, 26, 27, 29. Oct. 4, 5, 11, 13, 18, 21, 26.  
 During progress of work in shops - - }  
 During erection on board vessel - - - }  
 Total No. of visits 35

Dates of Examination of principal parts—Cylinders 5/3/38 Slides 15/11/38 Covers 15/11/38  
 Pistons 21/9/38 Piston Rods 21/9/38 Connecting rods 21/9/38  
 Crank shaft 15/26/9/38 Thrust shaft 26/10/38 Intermediate shafts —  
 Tube shaft — Screw shaft 5/10/38 Propeller 5/10/38  
 Stern tube 21/10/38, 17/11/38 Engine and boiler seatings — Engines holding down bolts 25/11/38  
 Completion of fitting sea connections *see Link Rpt.*  
 Completion of pumping arrangements *see Link Rpt.* Boilers fixed 25/11/38 Engines tried under steam 8/12/38  
 Main boiler safety valves adjusted 8/12/38 Thickness of adjusting washers Main 1/2" both. Donkey 1/32" std. 2 1/32" post.  
 Crank shaft material *steel* Identification Mark 660/1/2 Thrust shaft material *steel* Identification Mark 814  
 Intermediate shafts, material — Identification Marks — Tube shaft, material — Identification Mark —  
 Screw shaft, material *steel* Identification Mark 813 Steam Pipes, material *steel* Test pressure 600 Date of Test 24/11/38  
 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 required*  
 Is this machinery duplicate of a previous case *no* If so, state name of vessel —

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

The machinery of this vessel has been constructed under special survey in accordance with the approved plans, Secretary's letters and the requirements of the Rules. The workmanship and materials are good. The machinery has been efficiently fitted on board and tried under working conditions (except as mentioned below) and found satisfactory and is eligible, in my opinion, for the

NOTATION + L.M.C. 12.38

When the following requirements have been carried out:—  
 1. The testing of the pumping arrangements of 1. The No. 2. hold bilges;  
 2. the ballast pump to the caulkers; 3. the feed pump and injector to the donkey boiler.  
 Arrangements have been made for completion at Link. Surveyors advised.

*L. R. Howe*

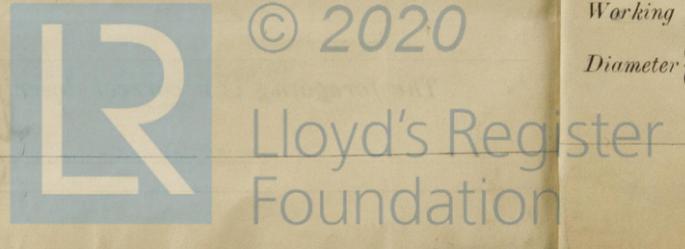
The amount of Entry Fee ... £ 3 : : : When applied for,  
 Special ... £ 49 : : : 20 DEC 1938  
 Donkey Boiler Fee ... £ : : : When received,  
 Travelling Expenses (if any) £ : : : 24 12 1938

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI 27 JAN 1939

Assigned + L.M.C. 1.35

*OC. Out Eng*



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