

# REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office 10 NOV 1949

Date of writing Report 19... When handed in at Local Office 19... Port of Glasgow  
 No. in Survey held at Grangemouth Date, First Survey 2-12-48 Last Survey 19-9-1949  
 Reg. Book 3430 on the 55 RHINELAND (EX SCHWAN) (Number of Visits...)  
 Tons (Gross 1223.4 Net 532.2)  
 Built at Kiel By whom built Hawaldtswerke A/G Yard No. - When built 1938  
 Engines made at Bremen By whom made Deutsche Schiff u. Mach Engine No. 2099 AT. 35.7 When made 1938  
 Boilers made at Kiel By whom made Hawaldtswerke A/G Boiler No. 1520/i When made 1938  
 Registered Horse Power... Owners Burrie Line Ltd Port belonging to Leith  
 Nom. Horse Power as per Rule... Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes  
 Trade for which vessel is intended International

ENGINES, &c.—Description of Engines Compound & LP Turbine with D.P. gearing & Hydraulic Coupling Revs. per minute 96  
 Dia. of Cylinders 17 1/16" x 35 7/16" Length of Stroke 35 7/16" No. of Cylinders 2 No. of Cranks 2  
 Crank shaft, dia. of journals as per Rule Crank pin dia. 11" Mid. length breadth 2 1/2" Thickness parallel to axis 6 7/16"  
as fitted 10 5/8" Crank webs shrunk Mid. length thickness 6 7/16" Thickness around eye-hole 5 1/2"  
 Intermediate Shafts, diameter as per Rule Thrust shaft, diameter at collars as per Rule  
as fitted 10 5/8" as fitted 12 1/2"

Tube Shafts, diameter as per Rule Screw Shaft, diameter as per Rule Is the tube shaft fitted with a continuous liner Yes  
as fitted - as fitted 11 3/8" screw

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  
as fitted 27/32" as fitted - 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 -

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 No If so, state type - Length of Bearing in Stern Bush next to and supporting propeller 3'-10 1/2"

Propeller, dia. 12'6" Pitch 13'9 1/2" No. of Blades 4 Material Br. whether Moveable No. Total Developed Surface 58 sq. feet

Feed Pumps worked from the Main Engines, No. None Diameter - Stroke - Can one be overhauled while the other is at work -  
 Bilge Pumps worked from the Main Engines, No. One Diameter 3 9/16" Stroke 18" Can one be overhauled while the other is at work -

Feed Pumps { No. and size 1-8x6x14, 1-8x6x10 d.l.p. Pumps connected to the { No. and size 1-8x6x10, 1-7 1/2x9x12, 1-3 9/16x18.  
 { How driven Steam Main Bilge Line { How driven Steam M.E.

Ballast Pumps, No. and size 1-7 1/2x9x12 d.l.p. Lubricating Oil Pumps, including Spare Pump, No. and size 1-6 3/8x6 3/8x14 gear pump.  
 Are two independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected both to Main Bilge Pumps and Auxiliary  
 Bilge Pumps:—In Engine and Boiler Room 2-2 1/2 ER 2-2 1/2 BR 1-2 1/2 aft well.

In Pump Room 2-2 1/2 dry tank, 1-2 1/2 ESD 1-2 1/2 coffee can. In Holds, &c. 1-2 1/2 P+S in No. 1, 2, 3 hold.

Main Water Circulating Pump Direct Bilge Suctions, No. and size 1-6" Independent Power Pump Direct Suctions to the Engine and/or Boiler Room Bilges,  
 No. and size 2-3 1/2" 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 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 Yes Is it fitted with a watertight door Yes worked from ER lock

MAIN BOILERS, &c.—(Letter for record -) Total Heating Surface of Boilers 2906 sq ft + 1600 sq ft superheater.  
 Which Boilers are fitted with Forced Draft Both Which Boilers are fitted with Superheaters Both

No. and Description of Boilers 2 - Marine Return tube S.E. Working Pressure 225 lbs. sq. in.

IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes

IS A DONKEY BOILER FITTED? No If so, is a report now forwarded? -

Can the donkey boiler be used for other than domestic purposes -

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

Superheaters - General Pumping Arrangements - Oil fuel Burning Piping Arrangements -

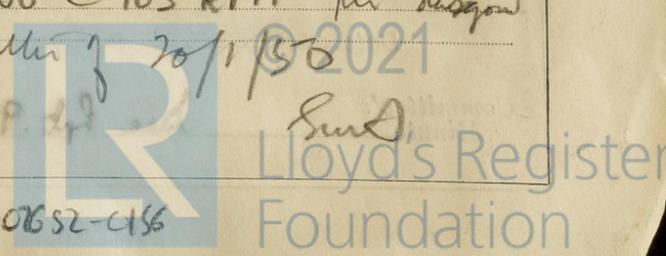
## SPARE GEAR.

Has the spare gear required by the Rules been supplied Yes  
 State the principal additional spare gear supplied -

The foregoing is a correct description.

Manufacturer.

total SHAP of engine + Turbine  
 1160 @ 103 RPM per Glasgow  
 letter of 20/1/50



002647-002652-0156

During progress of work in shops - - - *1938*  
 Dates of Survey while building *1938*  
 During erection on board vessel - - - *1938*  
 Total No. of visits *2000*  
 Dates of Examination of principal parts—Cylinders *1938* Slides *1938* Covers *1938*  
 Pistons *1938* Piston Rods *1938* Connecting rods *1938*  
 Crank shaft *1938* Thrust shaft *1938* Intermediate shafts *1938*  
 Tube shaft *1938* Screw shaft *1938* Propeller *1938*  
 Stern tube *1938* Engine and boiler seatings *1938* Engines holding down bolts *1938*  
 Completion of fitting sea connections *1938*  
 Completion of pumping arrangements *1938* Boilers fixed *1938* Engines tried under steam *1938*  
 Main boiler safety valves adjusted *5-9-49* Thickness of adjusting washers *Pl. 1 1/2 1 3/4 5 Pl. 3/2 1 1/2 5-1/2 Pl. 3/2 5 1 1/2*  
 Crank shaft material *-* Identification Mark *-* Thrust shaft material *-* Identification Mark *-*  
 Intermediate shafts, material *-* Identification Marks *11* Tube shaft, material *-* Identification Mark *-*  
 Screw shaft, material *-* Identification Mark *-* Steam Pipes, material *Steel* Test pressure *500* Date of Test *21-5-49*  
 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 *-* 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 *-* If so, state name of vessel *-*

General Remarks (State quality of workmanship, opinions as to class, &c. *This machinery was constructed under G.L. survey in 1938 and has now been examined throughout by surveyors to the British Corporation and this Society, tried under working conditions and found satisfactory, and is eligible to be classed with a record MBS 9-49 and notation TS(e) 1-49.*)

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	£	:	When applied for,
Special	£	Sept 9.	19
Donkey Boiler Fee	£	:	When received,
Travelling Expenses (if any)	£	:	19

*J.R. Dal*  
 Engineer Surveyor to Lloyd's Register of Shipping.

Date *GLASGOW - 9 NOV 1949*

Committee's Minute *See Pt. 9.*

