

# REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office 20 FEB 1946

Date of writing Report 11<sup>th</sup> FEBRUARY 1946. When handed in at Local Office 15<sup>th</sup> FEBRUARY 1946. Port of GREENOCK

No. in Survey held at PORT GLASGOW Date, First Survey 6<sup>th</sup> APRIL 1945 Last Survey 30-1-46 19  
 Reg. Book 1 (Number of Visits 25)

on the EMPIRE FRIEDR SING. S. TUG Tons (Gross 294.83 Net 262.17)

Built at PORT GLASGOW By whom built FERGUSON BROS (P<sup>r</sup> GLS.) L<sup>d</sup> Yard No. 377 When built 1946

Engines made at do By whom made do Engine No. 377 When made 1946

Boilers made at GREENOCK By whom made PARKIN & BLACKMORE Boiler No. 50.93 When made 1946

Registered Horse Power 154 Owners M. O. W. T. Port belonging to GLASGOW

Nom. Horse Power as per Rule 154 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Trade for which vessel is intended

ENGINES, &c.—Description of Engines Triple expansion Revs. per minute 124

Dia. of Cylinders 15" 25 1/2" 42" Length of Stroke 37" No. of Cylinders 3 No. of Cranks 3

Crank shaft, dia. of journals 8.043 as per Rule 8.14 Crank pin dia. 8 1/4" Mid. length breadth 15 3/4" Thickness parallel to axis 5 1/2"

as fitted 8.14 Crank webs shrunk Mid. length thickness 5 1/2" Thickness around eye-hole 3 5/8"

Intermediate Shafts, diameter 8" as per Rule 8.043 Thrust shaft, diameter at collars 8.14 as fitted 8.14

Tube Shafts, diameter 8.86" as per Rule 9.25 Is the tube shaft fitted with a continuous liner No

Screw Shaft, diameter 9.25 as fitted 9.25

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 Yes

If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner Yes

If two liners are fitted, is the shaft lapped or protected between the liners Yes Is an approved Oil Gland or other appliance fitted at the after end of the tube Yes

at Yes If so, state type Newark Length of Bearing in Stern Bush next to and supporting propeller 3'-2"

Propeller, dia. 10'-0" Pitch 11'-6" No. of Blades 4 Material C.I. whether Moveable No Total Developed Surface 38 sq. feet

Feed Pumps worked from the Main Engines, No. None Diameter 3" Stroke 15" Can one be overhauled while the other is at work Yes

Bilge Pumps worked from the Main Engines, No. Two Diameter 3" Stroke 15" Can one be overhauled while the other is at work Yes

Feed Pumps No. and size Two 6-8 1/2" Pumps connected to the Main Bilge Line { No. and size 1 1/2 5-7 1/2" 1 1/2 9-12" 2 1/2 3 x 15" How driven Steam duplex duplex Main engine

Ballast Pumps, No. and size 1 7 1/2 x 5 x 6 Lubricating Oil Pumps, including Spare Pump, No. and size —

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 Four @ 2 1/2" One See 6th letter

In Pump Room Yes In Holds, &c. Five @ 2" 7,346

Main Water Circulating Pump Direct Bilge Suctions, No. and size One @ 3" Independent Power Pump Direct Suctions to the Engine and/or Boiler Room Bilges, No. and size One @ 3"

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 Valves

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 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 No Is it fitted with a watertight door Engine room worked from

MAIN BOILERS, &c.—(Letter for record S) Total Heating Surface of Boilers 2400

Which Boilers are fitted with Forced Draft Yes Which Boilers are fitted with Superheaters —

No. and Description of Boilers One cylindrical Working Pressure 200 lbs

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 16.2.46 Main Boilers Yes Auxiliary Boilers — Donkey Boilers —

(If not state date of approval)

Superheaters — General Pumping Arrangements 27-6-45 Oil fuel Burning Piping Arrangements 27-6-45

## SPARE GEAR.

Has the spare gear required by the Rules been supplied Yes

State the principal additional spare gear supplied See list attached

The foregoing is a correct description.

FERGUSON BROTHERS (PORT-GLASGOW) LTD.

*John Ferguson* MANAGING DIRECTOR

Manufacturer.



During progress of work in shops - - (1945) APRIL 6. AUG. 22. SEPT 5. 18. 28. OCT. 2. 9. 16. 23. NOV. 1. 9. 14. 20. 23. 30. DEC. 7. 11. 24.  
 (1946) JAN. 8. 15. 17. 18. 21. 24. 30.  
 Dates of Survey while building {  
 During erection on board vessel - - - {  
 Total No. of visits. 25.

Dates of Examination of principal parts—Cylinders 1-11-45 Slides 1-11-45 Covers 1-11-45  
 Pistons 1-11-45 Piston Rods 9-10-45 Connecting rods 9-10-45  
 Crank shaft Thrust shaft 9-10-45 Intermediate shafts 9-10-45  
 Tube shaft ✓ Screw shaft 9-10-45 Propeller 23-10-45  
 Stern tube 28-9-45 Engine and boiler seatings 16-10-45 Engines holding down bolts 11-12-45  
 Completion of fitting sea connections 22-10-45  
 Completion of pumping arrangements 24-1-46 Boilers fixed 11-12-45 Engines tried under steam 24-1-46  
 Main boiler safety valves adjusted 17-1-46 Thickness of adjusting washers  $\frac{23}{64}$   $\frac{523}{64}$   
 Crank shaft material SMS Identification Mark 9483 LR Thrust shaft material SMS Identification Mark 9705 LR  
 Intermediate shafts, material SMS Identification Marks 9704 LR Tube shaft, material ✓ Identification Mark ✓  
 Screw shaft, material SMS Identification Mark 9703 LR Steam Pipes, material 50 Copper Test pressure 400 lb Date of Test 7-12-45  
 Is an installation fitted for burning oil fuel 4 ✓ Is the flash point of the oil to be used over 150° F. 4 ✓  
 Have the requirements of the Rules for the use of oil as fuel been complied with 4 ✓  
 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. No If so, state name of vessel  
 General Remarks (State quality of workmanship, opinions as to class, &c.)

This machinery has been built under special survey in accordance with the Rules and approved plans. The M.O.W.T. specifications & plans have been supervised. The materials & workmanship are sound & good. It has been efficiently installed in the vessel & tested on a sea trial at full power with satisfactory results. It is eligible in my opinion to be classed in the Register Book with record + LMC 1-46 with Notation Screw shaft G.G. 1 SE boiler 200 lb  $\frac{1}{2}$  FD. fitted for oil fuel flash point above 150° F.

The amount of Entry Fee ... £ 19-5-  
 Eng. + 25% Spec ... £ 9-12-6  
 Donkey Boiler Fee ... £ : :  
 Travelling Expenses (if any) £ : :  
 When applied for, 19  
 When received, 19

Charles J. Hunter  
 Engineer Surveyor to Lloyd's Register of Shipping.

Date GLASGOW 19 FEB 1946

(The Committee's Minute)

-/- Enc 1.46

Fitted for oil fuel 1.46 B.P. above 150° F.