

# REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

-5 FEB '36

Date of writing Report

19

When handed in at Local Office

1. 2.

10

36 Port of

Glasgow

No. in Survey held at

Glasgow

Date, First Survey

2. 5. 35

Last Survey

29-1-

1936

Reg. Book.

on the new steel "FORT AMHERST"

(Number of Visits 53)

Tons { Gross 3489  
Net 1946

Built at Glasgow

By whom built

Blythswood Shipbuilding Co. Ltd

Yard No. 39

When built 1935

Engines made at Glasgow

By whom made

David Rowan & Co. Ltd

Engine No. 984

When made 1935

Bailers made at Glasgow

By whom made

David Rowan & Co. Ltd

Boiler No. 984

When made 1935

Registered Horse Power

Owners Furness Red Cross Line

Port belonging to

London

Nom. Horse Power as per Rule

408

456 with compressor

Is Refrigerating Machinery fitted for cargo purposes

yes

Is Electric Light fitted

yes

Trade for which Vessel is intended

ENGINES, &c.—Description of Engines Triple expansion

Dia. of Cylinders 22" 35" 63"

Length of Stroke 39"

No. of Cylinders 3

Revs. per minute 113

Crank shaft, dia. of journals as per Rule 12.52"

as fitted 12.58"

Crank pin dia. 12.58"

Crank webs Mid. length breadth 25.5"

No. of Cranks 3

Thickness parallel to axis 8"

Intermediate Shafts, diameter as per Rule 11.924"

as fitted 12"

Thrust shaft, diameter at collars as per Rule 12.52"

as fitted 12.58" Mitchell

Tube Shafts, diameter as per Rule

Screw Shaft, diameter as per Rule 13.72"

as fitted 13.74"

Is the screw shaft fitted with a continuous liner? yes

Bronze Liners, thickness in way of bushes as per Rule .714"

as fitted 3/4"

Thickness between bushes as per Rule .537"

as fitted 1/2"

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

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

no

If so, state type

Is an approved Oil Gland or other appliance fitted at the after end of the tube

no

If so, state type

Length of Bearing in Stern Bush next to and supporting propeller 4'-7"

Propeller, dia. 13'-9"

Pitch 14'-3"

No. of Blades 4

Material Bronze

whether Movable no

Total Developed Surface 70.5 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. 2

Diameter 3.5"

Stroke 21"

Can one be overhauled while the other is at work

Feed Pumps

No. and size 2 @ 7'-9.5" x 21"

How driven Steam

Main Bilge Line

No. and size Ballast pump: 2 @ 1'-6" x 1'-6"

How driven Steam

Electric motor (submersible)

Ballast Pumps, No. and size 1 @ 8'-10" x 8"

Impeller

Lubricating Oil Pumps, including Spare Pump, No. and size

Are two independent means arranged for circulating water through the Oil Cooler

no

In Engine and Boiler Room

3 @ 2.5" - Eng room

2 @ 2.5" & 2 @ 2" - stokehold

In Pump Room

In Holds, &c. No 1 hold - 2 @ 2.5"

No 2 hold - 2 @ 2.5"

No 3 hold - 2 @ 2.5"

Tunnel well - 1 @ 2.5"

6 off deck above deep oil tanks - 2 @ 2"

Main Water Circulating Pump Direct Bilge Suctions, No. and size one @ 10"

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 3 @ 4"

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

How are they protected

—

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

yes

worked from upper decks

MAIN BOILERS, &c.—(Letter for record (S))

Total Heating Surface of Boilers 6100 sq. ft.

Is Forced Draft fitted

yes

No. and Description of Boilers 2 SB

Working Pressure 220 lbs

IS A REPORT ON MAIN BOILERS NOW FORWARDED? yes

IS A DONKEY BOILER FITTED? no

If so, is a report now forwarded? -

PLANS. Are approved plans forwarded herewith for Shafting

yes

Main Boilers

yes

Auxiliary Boilers

—

Donkey Boilers

—

Superheaters

no

General Pumping Arrangements

no

Oil fuel Burning Piping Arrangements

yes

## SPARE GEAR.

Has the spare gear required by the Rules been supplied

yes

State the principal additional spare gear supplied

one built cast steel propeller. Circulating pump impeller and spindle.

one propeller shaft. one air pump rod.

The foregoing is a correct description,

For David Rowan & Co. Ltd  
Arch. W. Greenow

Manufacturer.



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Lloyd's Register Foundation

Dates of Survey while building  
 During progress of work in shops - - 1935 May: 2, 7, 30 June: 6, 12, 24 July: 9 Aug: 2, 12, 21, 22, 23, 26, 27 Sep: 2, 9, 10, 13, 18, 19, 23, 25, 26, 27 Oct: 2, 3, 4, 7, 8, 9, 11, 16, 21, 22, 23, 25, 28, 29, 31 Nov: 1, 4, 15, 20, 25, 29 Dec: 5, 16, 17, 24, 26 (1936) Jan: 29  
 Total No. of visits 53

Dates of Examination of principal parts—Cylinders 2-9-35 Slides 18-9-35 Covers 10-9-35  
 Pistons 18-9-35 Piston Rods 18-9-35 Connecting rods 26-8-35  
 Crank shaft 9-9-35 Thrust shaft 13-9-35 Intermediate shafts 21-8-35  
 Tube shaft — Screw shaft 27-9-35 Propeller 23-9-35  
 Stern tube 9-9-35 Engine and boiler seatings 8-10-35 Engines holding down bolts 4-11-35  
 Completion of fitting sea connections 8-10-35  
 Completion of pumping arrangements 25-11-35 Boilers fixed 15-11-35 Engines tried under steam 29-1-36  
 Main boiler safety valves adjusted 26-12-35 Thickness of adjusting washers Port blr - both 3/8" Stack blr - 5/16" 5 3/8"  
 Crank shaft material 9. Steel Identification Mark \* LLOYD'S N° 5565 L.C.D. 9-9-35 Thrust shaft material 9. steel Identification Mark \* LLOYD'S N° 5565 L.C.D. 13-9-35  
 Intermediate shafts, material 9. steel Identification Marks \* LLOYD'S N° 5565 L.C.D. 9-9-35 Tube shaft, material — Identification Mark \* LLOYD'S N° 5565 L.C.D. 13-9-35  
 Screw shaft, material 9. steel Identification Mark \* LLOYD'S N° 5565 L.C.D. 21-8-35 J.H. 27-9-35 Steam Pipes, material Steel Test pressure 660 lbs Date of Test 30-10-35  
 Is an installation fitted for burning oil fuel yes Is the flash point of the oil to be used over 150°F. yes  
 Have the requirements of the Rules for the use of oil as fuel been complied with yes  
 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.)  
 \* In addition to these marks, each forging is stamped with its original number as per forging reports herewith.  
 The Rouan Götaverken Turbo Compressor T.C.65 - fitted with these engines has been tried under steam and found satisfactory. Separate report on Form 10 herewith. BHP<sub>turb</sub> 530  
 The materials and workmanship are good.  
 The machinery has been constructed under special survey, satisfactory fitted in the vessel, tried under steam and found good.  
 It is eligible in my opinion for classification and the record - +LMC 1.36 and the notation - "Exhaust turbine driving steam compressor"

JHC  
 1-2-36  
 GLASGOW

The amount of Entry Fee ... £ 5 : : When applied for, 31 JAN 1936  
 Special ... £ 86 : 4 : :  
 Donkey Boiler Fee ... £ : : :  
 Travelling Expenses (if any) £ : : : 20.2 19 36 21/2

S. C. Davis  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 4-FEB 1936

Assigned + LMC 1.36 JD

Exhaust Turbine driving steam compressor

