

RECEIVED

List of Rpt. 4.

No. 69543

# REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

26 APR 1945

Date of writing Report 19 When handed in at Local Office 23 4 1945 Port of Glasgow  
 No. in Survey held at Glasgow Date, First Survey 9 1 45 Last Survey 11 - 4 - 1945  
 Reg. Book (Number of Visits 16)  
 on the SS EMPIRE SHETLAND Tons Gross 813 Net 334  
 Built at Glasgow By whom built A. J. Inglis Ltd. Yard No. 1288 P. When built 1945  
 Engines made at Greenock By whom made Rankin & Blacklock Engine No. 5090 When made 1945  
 Boilers made at Glasgow By whom made David Rowan & Co. Boiler No. B.486 When made 1945  
 Registered Horse Power 144 Owners Ministry of War Transport Port belonging to Glasgow  
 Nom. Horse Power as per Rule 144 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes  
 Trade for which vessel is intended

ENGINES, &c.—Description of Engines See Greenock Report No. 22970 Triple Expansion Revs. per minute 95  
 Dia. of Cylinders 15" - 25 1/2" - 41" Length of Stroke 30" No. of Cylinders 3 No. of Cranks 3  
 Crank shaft, dia. of journals as per Rule 8 3/8" Crank pin dia. 8 3/8" Mid. length breadth 16" Thickness parallel to axis 5 1/2"  
 as fitted 8 3/8" Crank webs Mid. length thickness 5 1/2" shrunk Thickness around eye-hole 3 1/4" + 3 1/4"  
 Intermediate Shaft, diameter as per Rule 7.78" Thrust shaft, diameter at collars as per Rule 8.114" as fitted 8 1/8" 8 3/8"  
 Tube Shafts, diameter as per Rule 8.68" Is the tube screw shaft fitted with a continuous liner Yes  
 as fitted 8 7/8" as fitted 8 7/8"  
 Bronze Liners, thickness in way of bushes as per Rule 42" Thickness between bushes as per Rule 19" Is the after end of the liner made watertight in the  
 as fitted 32" as fitted 32" 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' 0"  
 Propeller, dia. 10' 9" Pitch 11' 3" No. of Blades 4 Material C.I. whether Moveable No Total Developed Surface 41 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. 2 Diameter 4" Stroke 16 1/2" Can one be overhauled while the other is at work Yes  
 Feed Pumps No. and size 2 - 5" x 7" x 12" Pumps connected to the Main Bilge Line No. and size 1 - 6 1/2" x 7" x 15"  
 How driven steam How driven 56am  
 Ballast Pumps, No. and size 1 - 6 1/2" x 7" x 15" Lubricating Oil Pumps, including Spare Pump, No. and size  
 Are two independent means arranged for circulating water through the Oil Cooler Suctions, connected both to Main Bilge Pumps and Auxiliary  
 Bilge Pumps:—In Engine and Boiler Room 2 - 2 1/2" x 1-2" In Holds, &c.  
 In Pump Room 1-3"

Main Water Circulating Pump Direct Bilge Suctions, No. and size 1-4" Independent Power Pump Direct Suctions to the Engine and/or Boiler Room Bilges.  
 No. and size 1-3" 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 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  
 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 None Is it fitted with a watertight door worked from

MAIN BOILERS, &c.—(Letter for record (s) Total Heating Surface of Boilers 2237 sq. ft.  
 Which Boilers are fitted with Forced Draft Main Boiler Which Boilers are fitted with Superheaters None  
 No. and Description of Boilers 1 - S.B. Working Pressure 190 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 23-11-43 Main Boilers Yes Auxiliary Boilers Donkey Boilers  
 (If not state date of approval)

Superheaters General Pumping Arrangements 23-1-43 Oil fuel Burning Piping Arrangements 23-1-43

## SPARE GEAR.

Has the spare gear required by the Rules been supplied Yes  
 State the principal additional spare gear supplied See attached list

The foregoing is a correct description BEHALF OF

AITCHISON, BLAIR, LIMITED, Manufacturer.

A. Thomson DIRECTOR,



© 2020

Lloyd's Register Foundation  
 004116-004124-0218



Dates of Survey while building  
During progress of work in shops - -  
During erection on board vessel - -  
Total No. of visits

1945 Jan 9 11 12 16 18 24 Feb 2 6 Mar 14 19 27 29 Apr 4 5 9 11

16

Dates of Examination of principal parts - Cylinders  
Pistons  
Crank shaft  
Tube shaft  
Stern tube  
Completion of fitting sea connections  
Completion of pumping arrangements  
Main boiler safety valves adjusted  
Crank shaft material  
Intermediate shafts, material  
Screw shaft, material  
Is an installation fitted for burning oil fuel  
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 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  
General Remarks (State quality of workmanship, opinions as to class, &c.)

See Greenock Report

16-1-45

11-1-45

16-1-45

11-4-45

5-4-45

SM Steel

Identification Mark

Identification Marks

S

Identification Mark

LLOYDS 3957

WL 16-1-45

Is the flash point of the oil to be used over 150° F.

Yes

If so, have the requirements of the Rules been complied with

Yes

If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with

Yes

If so, state name of vessel

"Empire Bute"

JB Ref No: 69167

The machinery of the vessel has

been built under Special Survey in accordance with the Society's Rules, the

approved plans and the Specification. The materials and workmanship are good

The machinery has been satisfactorily fitted on board the vessel by Messrs

Anderson Blair Ltd and satisfactorily tried under working conditions.

The vessel is eligible in our opinion to be classed with a record + LMC 4-45

with notation "Fitted for oil fuel 4-45 F.P. above 150°F."

The amount of Entry Fee ... £ 3 : - :  
1/5 Special ... £ 7.4.0 : 2 : 2 :  
Spec ... £ 1.16.0 : 18 : 2 :  
Donkey Boiler Fee ... £ 5 : 2 :  
Travelling Expenses (if any) £ : :  
When applied for, 24 APR 1945  
When received, 19

Date GLASGOW

24 APR 1945

Committee's Minute - 1- Linc 4.45

Fitted for oil fuel 4.45  
2 P above 150°F

MR Dalrymple & Russell  
Engineer Surveyors to Lloyd's Register of Shipping.



© 2020

Lloyd's Register Foundation