

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office 12 MAR 1942

Date of writing Report 9.3.1942 When handed in at Local Office 10.4.2 Port of Glasgow

No. in Survey held at Glydebank Date, First Survey 1st: 1: 41 Last Survey 20: 2: 1942
Reg. Book. on the EMPIRE CADET (Number of Visits 55) Tons Gross 813 Net 333

Built at G'mouth By whom built G'mouth Dryd C^o L^d Yard No. 436 When built 1942

Engines made at G'mouth By whom made A'son Blair L^d Engine No. 230 When made 1942

Boilers made at Glasgow By whom made S. Rowan & Co. Boiler No. B456 When made

Registered Horse Power Owners Port belonging to

Nom. Horse Power as per Rule 139 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

Dia. of Cylinders 15-25 1/2-41 Length of Stroke 30 No. of Cylinders 3 Revs. per minute 5 1/2

Crank shaft, dia. of journals as per Rule 18-11-40 8-17 as fitted 8 3/8 Crank pin dia. 8 3/8 Crank webs Mid. length breadth 16 Mid. length thickness 5 1/2 Thickness parallel to axis 5 1/2 Thickness around eye-hole 4

Intermediate Shafts, diameter as per Rule 7.78 as fitted none Thrust shaft, diameter at collars as per Rule 6-11-40 8.67 as fitted 8 3/8

Tube Shafts, diameter as per Rule as fitted Screw Shaft, diameter as per Rule 6-11-40 8.67 as fitted 8 3/8 Is the tube screw shaft fitted with a continuous liner? Yes

Bronze Liners, thickness in way of bushes as per Rule 19/32 Thickness between bushes as per Rule 17/32 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? One length

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? Yes

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 shaft? No

Propeller, dia. 10-9 Pitch 11-3 No. of Blades 4 Material C.C. whether Moveable Solid Total Developed Surface 41 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 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" How driven Steam Pumps connected to the Main Bilge Line No. and size 1-6 1/2" x 7" x 15 How driven Steam

Ballast Pumps, No. and size 1-6 1/2" x 7" x 15 Lubricating Oil Pumps, including Spare Pump, No. and size none

Are two independent means arranged for circulating water through the Oil Cooler? none

Bilge Pumps;—In Engine and Boiler Room 2-2 1/2", 2-2" only bilge Suctions, connected to both Main Bilge Pumps and Auxiliary

In Pump Room In Holds, &c.

Main Water Circulating Pump Direct Bilge Suctions, No. and size 1-4 Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1-8

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? none 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? none Is it fitted with a watertight door? worked from

MAIN BOILERS, &c.—(Letter for record 5) Total Heating Surface of Boilers 2100 sq. ft.

Which Boilers are fitted with Forced Draft? Yes Which Boilers are fitted with Superheaters? none

No. and Description of Boilers 1 - Multitubular Working Pressure 190

IS A REPORT ON MAIN BOILERS NOW FORWARDED?

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

Can the donkey boiler be used for domestic purposes only?

PLANS. Are approved plans forwarded herewith for Shafting? Yes Main Boilers Auxiliary Boilers Donkey Boilers

(If not state date of approval)

Superheaters General Pumping Arrangements Yes 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.

1 - Conn rod bottom end bush
1 - " " " "
1 - set HP piston rings
1 - set air pump valves
1 - set thrust pads
1 - set air pump valves

The foregoing is a correct description.

AITCHISON, BLAIR, LIMITED.

Arch Blair DIRECTOR

Manufacturer.

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1941 Jan: 14-16-21-24-27-30 Feb: 6-11-13-21 Mar: 13 May 6 June 17 July: 29 Aug: 1-8-12-19
 During progress of work in shops - - 28 Sep: 3-8-11-17-19-22-24 Oct: 6-9-21-23-29 Nov: 6-7-14-26 Dec: 4-17
 Dates of Survey while building During erection on board vessel - - - 1941 Sep: 12-24 Oct: 3-13-22-28-29 (1942) Jan: 12-19-21-22-29-30 Feb: 6-7-9-15-20
 Total No. of visits 55

Dates of Examination of principal parts—Cylinders 19-8-41 eli Slides 26-11-41 eli Covers 8-9-41 eli
 Pistons 8-9-41 eli Piston Rods 22-9-41 eli Connecting rods 22-9-41 eli
 Crank shaft 26 31/1/41 eli Thrust shaft 22-9-41 eli Intermediate shafts -
 Tube shaft Screw shaft 3-9-41 eli Propeller 17-12-41
 Stern tube 13-8-41 eli Engine and boiler seatings 23-10-41 Engines holding down bolts 18-12-42
 Completion of fitting sea connections 3-10-41
 Completion of pumping arrangements 6-2-42 Boilers fixed 12-1-42 Engines tried under steam 20-2-42
 Main boiler safety valves adjusted 7-2-42 Thickness of adjusting washers P 7/16 S 15/32
 Crank shaft material 8 Identification Mark 5494 Thrust shaft material 8 Identification Mark 219
 Intermediate shafts, material 718 Identification Marks ✓ Tube shaft, material ✓ Identification Mark -
 Screw shaft, material 8 Identification Mark 219 Steam Pipes, material Steel ✓ Test pressure 570 Date of Test 26-1-42
 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 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 No ✓
 Is this machinery duplicate of a previous case Yes ✓ If so, state name of vessel 'EMPIRE LASS'

General Remarks (State quality of workmanship, opinions as to class, &c. The machinery of this vessel has been built under special Survey in accordance with the approved plans and the Society's Rules and requirements, the materials and workmanship are good, it has been securely fitted on board and satisfactorily tried under steam, and in our opinion is eligible for the record + L. M. C. 2-42 - CL.

216
 9/3/42

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 ... £ 3 : - : When applied for,
 Special ... £ 20 : 7 : 10 MAR 1942
 Donkey Boiler Fee ... £ 5 : 4 :
 Travelling Expenses (if any) £ 1 : 10 : When received, 19

Committee's Minute GLASGOW 10 MAR 1942

Assigned 1- Dec 2.42

J. S. Cairns, M. Dale
 Engineer Surveyor to Lloyd's Register of Shipping.



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