

REPORT ON OIL ENGINE MACHINERY

No 118060

Received at London Office

16 JUL 1942

Date of writing Report 2.7.42 19 When handed in at Local Office

Port of

LIVERPOOL

No. in Survey held at NORTHWICH

Date, First Survey Oct 15th

Last Survey June 25th 1942

Reg. Book.

Number of Visits 23

Tons Gross 327.
Net

on the Single
Twin
Triple
Quadruple
Screw vessel n.v. EMPIRE LILY

Built at Northwich By whom built I. Pimblott + Sons Ltd Yard No. 642 When built 1942
Engines made at Keighley By whom made H. Widdop + Co Ltd Engine No. 4141 When made 1942
Donkey Boilers made at By whom made Boiler No. When made
Brake Horse Power 300 Owners Ministry of Shipping (No 259.) Port belonging to
Nom. Horse Power as per Rule 140 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
Trade for which vessel is intended Coasting

IL ENGINES, &c.—Type of Engines Heavy oil airless injection 2 or 4 stroke cycle Single or double acting

Maximum pressure in cylinders See Leeds report No 13. Diameter of cylinders Length of stroke No. of cylinders No. of cranks

Mean Indicated Pressure

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge Is there a bearing between each crank

Revolutions per minute Flywheel dia. Weight Means of ignition Kind of fuel used

Crank Shaft, { Solid forged
Semi built dia. of journals as per Rule
All built as fitted Crank pin dia. Crank Webs Mid. length breadth shrunk Thickness parallel to axis
Mid. length thickness Thickness around eyehole

Flywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule Thrust Shaft, diameter at collars as per Rule
as fitted fitted fitted

Screw Shaft, diameter as per Rule Is the tube screw shaft fitted with a continuous liner
as fitted as fitted

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 as fitted

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

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

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

aft Yes If so, state type Rotating rubber sleeve Length of Bearing in Stern Bush next to and supporting propeller 19.5"

Propeller, dia. 59" Pitch 43" No. of blades 4 Material C.I whether Moveable No Total Developed Surface 9.6 sq. feet

Method of reversing Engines Is a governor or other arrangement fitted to prevent racing of the engine when declutched Means of lubrication

Thickness of cylinder liners Are the cylinders fitted with safety valves Are the exhaust pipes and silencers water cooled or lagged with

non-conducting material Lagged If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine

Bilge Pumps, No. One on Main Eng; + One on Aux Is the sea suction provided with an efficient strainer which can be cleared within the vessel yes

Bilge Pumps worked from the Main Engines, No. One Diameter 4 1/4" Stroke 3" Can one be overhauled while the other is at work

Pumps connected to the Main Bilge Line No. and Size 1 - 4 1/4 x 3. 1 centrifugal. Capacity 21 1/2 tons/hr
How driven Main eng Aux. engine. Rule requirement 20 tons/hr.

the cooling water led to the bilges No If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping

arrangements. 2 - 13/8 x 3. Also elec. driven
Standby. 2 - 600 gals/hr each.

Ballast Pumps, No. and size 1 - 21 1/2 tons/hr Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size

Are two independent means arranged for circulating water through the Oil Cooler None? Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

Pumps, No. and size:—In Machinery Spaces 3 - 2 1/2" 2 - 2 1/2" In Pump Room

Holds, &c. dependent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 - 2 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 Spaces

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, on Kingston Boxes Are they fitted with Valves or Cocks Valves + cocks

Are they fixed sufficiently high on the ship's side to be seen without lifting the platform 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

Do pipes pass through the bunkers How are they protected Have they been tested as per Rule

Do 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

apartment to another yes Is the Shaft Tunnel watertight Is it fitted with a watertight door worked from

Is a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

Main Air Compressors, No. No. of stages Diameters Stroke Driven by

Auxiliary Air Compressors, No. See Leeds Rpts. No. of stages Diameters Stroke Driven by

Small Auxiliary Air Compressors, No. No. of stages Diameters Stroke Driven by

Is that provision is made for first Charging the Air Receivers

Revolving Air Pumps, No. Diameter Stroke Driven by

Auxiliary Engines crank shafts, diameter as per Rule as fitted See Leeds Rpts. No. 14 + 15

Are the Auxiliary Engines been constructed under special survey yes Is a report sent herewith

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009278-009288-0272

AIR RECEIVERS:—Have they been made under survey

State No. of Report or Certificate **Leeds Rpt No. 13.**

Is each receiver, which can be isolated, fitted with a safety valve as per Rule

Is a drain fitted at the lowest part of each receiver

Can the internal surfaces of the receivers be examined and cleaned

Injection Air Receivers, No.

Cubic capacity of each

Internal diameter

thickness

Seamless, lap welded or riveted longitudinal joint

Material

Range of tensile strength

Working pressure by Rules

Actual

Starting Air Receivers, No.

Total cubic capacity

Internal diameter

thickness

Seamless, lap welded or riveted longitudinal joint

Material

Range of tensile strength

Working pressure by Rules

Actual

IS A DONKEY BOILER FITTED? **No**

If so, is a report now forwarded?

Is the donkey boiler intended to be used for domestic purposes only

PLANS. Are approved plans forwarded herewith for Shafting **22-4-40**
(If not, state date of approval)

Receivers **22-4-40 .26-2-42** Separate Fuel Tanks ☒

Donkey Boilers ☒

General Pumping Arrangements

Pumping Arrangements in Machinery Space

Oil Fuel Burning Arrangements ☒

SPARE GEAR.

Has the spare gear required by the Rules been supplied

Yes

State the principal additional spare gear supplied

As per attached list.

The foregoing is a correct description.

J. Macdonald & Co. Ltd.

Manufacturer.

Dates of Survey while building
During progress of work in shops - **1941**
During erection on board vessel - **Oct 15, Nov 12, Dec 5, 19, Jan 2, 15, 26, Feb 12, 24, Mar 26, 26, Apr 2, 8, 15, 22, 29, May 6, 20, June 12, 19, 23, 25.**
Total No. of visits **23.**

Dates of Examination of principal parts—Cylinders ☒ Covers ☒ Pistons ☒ Rods ☒ Connecting rods ☒

Crank shaft ☒ Flywheel shaft ☒ Thrust shaft ☒ Intermediate shafts ☒ Tube shaft ☒

Screw shaft **5-12-41** Propeller **19-12-41** Stern tube **19-12-41** Engine seatings **12-11-41** Engines holding down bolts **22-4-42**

Completion of fitting sea connections **2-1-42** Completion of pumping arrangements **12-6-42** Engines tried under working conditions **23-6-42**

Crank shaft, Material ☒ Identification Mark ☒ Flywheel shaft, Material ☒ Identification Mark ☒

Thrust shaft, Material ☒ Identification Mark ☒ Intermediate shafts, Material ☒ Identification Marks ☒

Tube shaft, Material ☒ Identification Mark ☒ Screw shaft, Material **M. Steel** Identification Mark **184**

Identification Marks on Air Receivers **54592.** **54595.** **D. 84** **26-11-41**

40/81/167.

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

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with **Yes**

Description of fire extinguishing apparatus fitted **Portable extinguisher, + water-hose pipes.**

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 **No**

Is this machinery duplicate of a previous case **Yes** If so, state name of vessel **"Empire Kyle" + "Empire Grove"**

General Remarks (State quality of workmanship, opinions as to class, &c.) **The Machinery of this vessel has been satisfactorily installed on board under special survey, in accordance with the Rules, and approved specification.**

The Machinery has been examined under full working conditions during a dock trial and afterwards in the river with satisfactory results and is eligible in my opinion to be classed in the Register Book, with a notation of + LMC 6.42

TS. 09. —

Oil Engines.

140 NHP = £35
+25% = 8.15-0
43-15-0
32-0-0
11-15-0

The amount of Entry Fee .. £ : : When applied for,

Balance Special ... £ 11 : 15/- **14 JUL 1942**

Donkey Boiler Fee ... £ : : When received,

Travelling Expenses (if any) £ **4 : 19/-** **19**

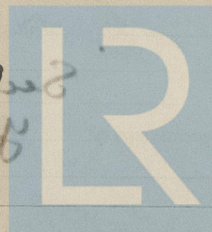
Committee's Minute **LIVERPOOL 14 JUL 1942**

Assigned

+ LMC 6.42 O.G.
OIL ENGINES

C. R. Rad

Engineer Surveyor to Lloyd's Register of Shipping.



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