

# REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

5 NOV 1941

Date of writing Report 19 When handed in at Local Office 20 OCT 1941 Port of LIVERPOOL  
 No. in Survey held at Lytham & Preston Date, First Survey 9/5/40 Last Survey 13/10/1941  
 Reg. Book. on the Steel Single Screw "Larchfield" (Number of Visits 40) Tons { Gross 493  
 Built at Lytham By whom built Lytham S.B. & E Co. Ltd. Yard No. 865 When built 1941  
 Engines made at do By whom made do Engine No. 546 When made 1941  
 Boilers made at do By whom made do Boiler No. 545 When made 1941  
 Registered Horse Power 72 Owners Zillah Shipping & Carrying Co. Ltd. Port belonging to Liverpool.  
 Nom. Horse Power as per Rule 105 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes  
 Trade for which Vessel is intended Coasting.

**ENGINES, &c.**—Description of Engines Triple Expansion Steam Reciprocating Revs. per minute 115  
 Dia. of Cylinders 12 1/2", 21" & 36" Length of Stroke 24" No. of Cylinders 3 No. of Cranks 3  
 Crank shaft, dia. of journals 6.94" as per Rule 7" Crank pin dia. 7 1/4" Crank webs Mid. length breadth 10" Thickness parallel to axis 4 3/4" x 5 1/4"  
 as fitted 7" Mid. length thickness 5 1/4" shrunk Thickness around eye-hole 3 1/8"  
 Intermediate Shafts, diameter as per Rule 6.94" Thrust shaft, diameter at collars as fitted 7"  
 as fitted 7.4" Is the screw shaft fitted with a continuous liner Yes  
 Tube Shafts, diameter as per Rule 7.4" as fitted 8" Is the screw shaft fitted with a continuous liner Yes  
 as fitted 17/32" Screw Shaft, diameter as per Rule 13/32" as fitted 7/16" 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 Continuous  
 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 Yes Is an approved Oil Gland or other appliance fitted at the after end of the tub  
 shaft Yes If so, state type Lytham S.B. & E Co. Ltd. Tuptl. Length of Bearing in Stern Bush next to and supporting propeller 8'-2"  
 Propeller, dia. 9'-6" Pitch 9'-6" No. of Blades 4 Material C.I. whether Moveable Solid Total Developed Surface 28 sq. feet  
 Feed Pumps worked from the Main Engines, No. None Diameter 2 1/2" Stroke 12" Can one be overhauled while the other is at work Yes  
 Bilge Pumps worked from the Main Engines, No. Two Diameter 2 1/2" Stroke 12" Can one be overhauled while the other is at work Yes  
 Feed Pumps { No. and size One 6 1/2" x 4 1/2" x 12" simplex Pumps connected to the Main Bilge Line { No. and size One 6 1/2" x 6 1/2" x 8" duplex, main engine pumps  
 How driven all steam driven Main Bilge Line { How driven Steam  
 Ballast Pumps, No. and size One 6 1/2" x 6 1/2" x 8" duplex Lubricating Oil Pumps, including Spare Pump, No. and size ✓  
 Are two independent means arranged for circulating water through the Oil Cooler ✓ Suctions, connected to both Main Bilge Pumps and Auxiliary  
 Bilge Pumps;—In Engine and Boiler Room One 2 1/2" ER; One 2 1/2" each side of stokehold; one 2 1/2" direct suction to ME after bilge pump.  
 In Pump Room ✓ In Holds, &c. One 2 1/2" P.S. & Centre after end of main hold also one  
2 1/2" at fore centre of main hold.  
 Main Water Circulating Pump Direct Bilge Suctions, No. and size One 3 1/2" dia Independent Power Pump Direct Suctions to the Engine Room Bilges,  
 No. and size One 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 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 Yes (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 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 Fore suction pipes How are they protected Under close ceiling  
 What pipes pass through the deep tanks Fore Peak suction 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 ✓ Is it fitted with a watertight door worked from

**MAIN BOILERS, &c.**—(Letter for record (S)) Total Heating Surface of Boilers 1637 sqft.  
 Which Boilers are fitted with Forced Draft Yes Which Boilers are fitted with Superheaters ✓  
 No. and Description of Boilers One Single Ended Cylindrical Working Pressure 200 lb/sq"  
 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 domestic purposes only ✓

**PLANS.** Are approved plans forwarded herewith for Shafting Yes Main Boilers Yes Auxiliary Boilers ✓ Donkey Boilers ✓  
 (If not state date of approval)  
 Superheaters ✓ General Pumping Arrangements Yes Oil fuel Burning Piping Arrangements ✓

### SPARE GEAR.

Has the spare gear required by the Rules been supplied Yes

State the principal additional spare gear supplied

- 3 Crankshaft coupling Bolts
- 3 screwshaft " "
- 1 Eccentric Strap
- 6 cylinder cover studs
- 6 " gland "
- 1 Stud for air pump valves
- 6 Boiler Tubes
- 48 Condenser ferrules & grommets
- 6 " tubes
- 24 assorted bolts & nuts
- 2 main bearing studs and nuts
- 4 Bronze rollers for valve cams
- 1 Boiler furnace back bearer
- 1 set Michell Thrust Pads

The foregoing is a correct description.

**THE LYTHAM SHIPBUILDING and ENGINEERING COMPANY, LIMITED** Manufacturer.

*R. Friedenthal*

Dates of Survey while building

During progress of work in shops -- 1940 June 5, 14, 25, Aug 7, 17, 30, Sept 27, Oct 1, 14, 23, Nov 4, 20, Dec 4, 10, 16, 1941 Jan 7, 22, Feb 3, 22, Mar 24, 29, Apr 3, 10, 28.

During erection on board vessel -- May 13, 23, 28, June 11, 19, 25, July 8, 11, 15, 24, 31, Aug 2, 16, Sept 10, 17, 24, Oct 7, 13.

Total No. of visits 43.

Dates of Examination of principal parts—Cylinders {HP 22/2/41, MP 24/3/41, LP 10/4/41} Slides 28/5/41 Covers 22/2/41, 24/3/41, 10/4/41

Pistons 23/5/41 Piston Rods 13/5/41 Connecting rods 13/5/41

Crank shaft 28/4/41 Thrust shaft 28/4/41 Intermediate shafts ✓

Tube shaft ✓ Screw shaft 28/4/41 Propeller 28/5/41

Stern tube 28/5/41 Engine and boiler seatings 25/6/41 Engines holding down bolts 8/7/41

Completion of fitting sea connections 11/6/41

Completion of pumping arrangements 31/7/41 Boilers fixed 8/7/41 Engines tried under steam 24/9/41

Main boiler safety valves adjusted 24/9/41 Thickness of adjusting washers P 3/32 S 1/32

Crank shaft material M.S. Identification Mark 366 RBG 28/4/41 Thrust shaft material M.S. Identification Mark 205 RBG 28/4/41

Intermediate shafts, material ✓ Identification Marks ✓ Tube shaft, material ✓ Identification Mark ✓

Screw shaft, material M.S. Identification Mark 204 RBG 28/4/41 Steam Pipes, material SD Copper Test pressure 400 lbs Date of Test 15/7/41

Is an installation fitted for burning oil fuel No Is the flash point of the oil to be used over 150°F. ✓

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 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 Yes If so, state name of vessel "Maplefield"

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. The workmanship and materials are sound and good. It has been fitted on board, tried under working conditions and found satisfactory, and is eligible in my opinion to be classed in the Register Book with notation + LMC 10.41 - T.S.C.L. one SB 200 lbs

Forging Reports, Mill sheets and the approved plans are forwarded herewith.

The amount of Entry Fee ... £ 3 : 0 :  
 Special ... £ 26 : 5 :  
 Donkey Boiler Fee ... £ ✓ : :  
 Travelling Expenses (if any) £ 5 : 9/9

When applied for 30 OCT 1941  
 When received ✓

W. B. Edwards {for self and R.B. Frier} Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute LIVERPOOL -4 NOV 1941  
 Assigned + LMC 10.41. C.L. F.D.

