

# REPORT ON MACHINERY.

No. 41876  
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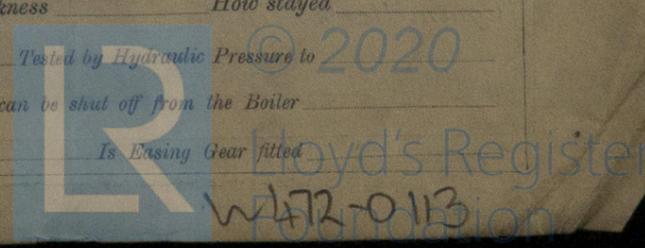
Date of writing Report 13<sup>th</sup> April 1922 When handed in at Local Office 13<sup>th</sup> April 1922 Port of Glasgow  
 No. in Survey held at Glasgow Date, First Survey 4<sup>th</sup> Aug 1920 Last Survey 10<sup>th</sup> April 1922  
 Reg. Book. on the S.S. MAYFIELD (Number of Visits 24)  
 Master [check] Built at Glasgow By whom built Jarrow & Co. Ltd. (1470) Tons Gross 642.88  
[check] Engines made at Glasgow By whom made Jarrow & Co. Ltd. (1470) when made 1922  
[check] Boilers made at Glasgow By whom made Barclay Curle & Co. Ltd. when made 1921  
 Registered Horse Power [check] Owners The Large Steamships Co. Ltd. (C. J. Brown Mgr.) Port belonging to Dublin.  
 Nom. Horse Power as per Section 28 120 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted yes

**ENGINES, &c.**—Description of Engines Triple No. of Cylinders 3 No. of Cranks 3  
 Dia. of Cylinders 15" 25 1/2" 41" Length of Stroke 30" Revs. per minute 103 Dia. of Screw shaft as per rule 8.59 Material of screw shaft Steel  
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube yes Is the after end of the liner made water tight in the propeller boss yes If the liner is in more than one length are the joints burned [check] 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 [check] If two liners are fitted, is the shaft lapped or protected between the liners [check] Length of stern bush 3'-2 1/2"  
 Dia. of Tunnel shaft as per rule 7.46 Dia. of Crank shaft journals as per rule 8.164 Dia. of Crank pin 9" Size of Crank webs 12 1/2" x 6" Dia. of thrust shaft under collars 8 3/4" Dia. of screw 10'-0" Pitch of Screw 11'-6" No. of Blades 4 State whether moveable No Total surface 35 sq ft  
 No. of Feed pumps 2 Diameter of ditto 3" Stroke 15" Can one be overhauled while the other is at work yes  
 No. of Bilge pumps 2 Diameter of ditto 3" Stroke 15" Can one be overhauled while the other is at work yes  
 No. of Donkey Engines 2 Sizes of Pumps Feed 6" x 4 1/2" x 6" Ballast 4" x 8" x 8" No. and size of Suctions connected to both Bilge and Donkey pumps in Engine Room 2 @ 2 1/2" diam In Holds, &c. 2 @ 2 1/2" diam  
 No. of Bilge Injections 1 sizes 4 1/2" Connected to condenser, or to circulating pump expp Is a separate Donkey Suction fitted in Engine room & size yes 1 @ 2 1/2"  
 Are all the bilge suction pipes fitted with roses yes Are the roses in Engine room always accessible yes Are the sluices on Engine room bulkheads always accessible None  
 Are all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks Valves & Cocks  
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates yes Are the Discharge Pipes 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 are carried through the bunkers None How are they protected [check]  
 Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yes  
 Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges yes  
 Is the Screw Shaft Tunnel watertight [check] Is it fitted with a watertight door [check] worked from [check]

**BOILERS, &c.**—(Letter for record S) Manufacturers of Steel Gls. I & S. Co., Colville, Spenser.  
 Total Heating Surface of Boilers 21620 sq ft Is Forced Draft fitted No No. and Description of Boilers 2 Single ended Scotch Water Tubes  
 Working Pressure 180 lbs Tested by hydraulic pressure to 320 lbs Date of test 24/2/21 No. of Certificate 15718  
 Can each boiler be worked separately yes Area of fire grate in each boiler 33 sq ft No. and Description of Safety Valves to each boiler 2 spring loaded Area of each valve 3.976 Pressure to which they are adjusted 185 lbs Are they fitted with easing gear yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork 4'-0" Mean dia. of boilers 11'-0" Length 10'-0" Material of shell plates  
 Thickness [check] Range of tensile strength [check] Are the shell plates welded or flanged [check] Descrip. of riveting: cir. seams  
 long. seams [check] Diameter of rivet holes in long. seams [check] Pitch of rivets [check] Lap of plates or width of butt straps  
 Per centages of strength of longitudinal joint [check] Working pressure of shell by rules [check] Size of manhole in shell  
 Size of compensating ring [check] No. and Description of Furnaces in each boiler [check] Material [check] Outside diameter  
 Length of plain part [check] Thickness of plates [check] Description of longitudinal joint [check] No. of strengthening rings  
 Working pressure of furnace by the rules [check] Combustion chamber plates: Material [check] Thickness: Sides [check] Back [check] Top [check] Bottom [check]  
 Pitch of stays to ditto: Sides [check] Back [check] Top [check] If stays are fitted with nuts or riveted heads [check] Working pressure by rules  
 Material of stays [check] Area at smallest part [check] Area supported by each stay [check] Working pressure by rules [check] End plates in steam space:  
 Material [check] Thickness [check] Pitch of stays [check] How are stays secured [check] Working pressure by rules [check] Material of stays [check]  
 Area at smallest part [check] Area supported by each stay [check] Working pressure by rules [check] Material of Front plates at bottom  
 Thickness [check] Material of Lower back plate [check] Thickness [check] Greatest pitch of stays [check] Working pressure of plate by rules  
 Diameter of tubes [check] Pitch of tubes [check] Material of tube plates [check] Thickness: Front [check] Back [check] Mean pitch of stays  
 Pitch across wide water spaces [check] Working pressures by rules [check] Girders to Chamber tops: Material [check] Depth and thickness of girder at centre [check] Length as per rule [check] Distance apart [check] Number and pitch of stays in each  
 Working pressure by rules [check] Steam dome: description of joint to shell [check] % of strength of joint  
 Diameter [check] Thickness of shell plates [check] Material [check] Description of longitudinal joint [check] Diam. of rivet holes  
 Pitch of rivets [check] Working pressure of shell by rules [check] Crown plates [check] Thickness [check] How stayed [check]

**SUPERHEATER.** Type [check] Date of Approval of Plan [check] Tested by Hydraulic Pressure to [check]  
 Date of Test [check] Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler  
 Diameter of Safety Valve [check] Pressure to which each is adjusted [check] Is Easing Gear fitted [check]

If not, state whether, and when, one will be sent? Is a Report also sent on the Hull of the Ship?



IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— *2 top end bolts & nuts, 2 bottom end bolts & nuts, 2 main bearing bolts, 1 set of coupling bolts, 1 set of feed & bulge valves, a quantity of assorted bolts & nuts, iron of various sizes.*

The foregoing is a correct description,

*J. Yarrow & Co. (1922) Ltd. St. W. Duden* Manufacturer.

Dates of Survey while building: During progress of work in shops - - - *1920 Aug 14, Sep 1, 6, Dec 16 (1921), Jan 31, Apr 22, 29, May 20, Jun 3, Jul 5, Oct 4, 6, Nov 21, 23 (1922), Feb 17, 23*  
During erection on board vessel - - - *Mar 6, 10, 16, 27, Apr 6, 7, 8, 10*  
Total No. of visits *24* Is the approved plan of main boiler forwarded herewith *No*  
" " " donkey " " "

Dates of Examination of principal parts—Cylinders *5.4.21* Slides *5.4.21* Covers *5.4.21* Pistons *5.4.21* Rods *4.10.21*  
Connecting rods *4.10.21* Crank shaft *4.10.21* Thrust shaft *4.10.21* Tunnel shafts  Screw shaft *4.10.21* Propeller *25.11.21*

Stern tube *14.11.21* Steam pipes tested *17.3.22* Engine and boiler seatings *29.11.21* Engines holding down bolts *16.3.22*  
Completion of pumping arrangements *27.3.22* Boilers fixed *10.3.22* Engines tried under steam *27.3.22, 6.4.22, 8.4.22*

Completion of fitting sea connections *25.11.21* Stern tube *21.11.21* Screw shaft and propeller *25.11.21*  
Main boiler safety valves adjusted *27.3.22* Thickness of adjusting washers *P. Bl. P 9/32 S 9/32 S. Bl. P 9/16 S 9/32*

Material of Crank shaft *S* Identification Mark on Do. *LLOYD'S 1470 4.10.21 S.F.D.* Material of Thrust shaft *S* Identification Mark on Do. *LLOYD'S 1470 4.10.21 S.F.D.*

Material of Tunnel shafts  Identification Marks on Do.  Material of Screw shafts *S* Identification Marks on Do. *LLOYD'S 1470 4.10.21 S.F.D.*

Material of Steam Pipes *S.D. steel* Test pressure *540 lbs/sq in*

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 Section 49 of the Rules been complied with

Is this machinery duplicate of a previous case *yes* If so, state name of vessel *S.S. Essomite, Kyanite*

General Remarks (State quality of workmanship, opinions as to class, &c.)

*The workmanship and materials are good. The engines and Boilers of this vessel have been built under special survey; they have been well fitted on board, tried under steam and found to work satisfactorily. The machinery of this vessel is eligible in our opinion for the record of L.M.C. 422 in the Register Book.*

It is submitted that this vessel is eligible for THE RECORD. *L.M.C. - 4.22. C.L.*

*Glasgow*

MACHINERY CERTIFICATE  
11/3/22  
*certified copy 23/2/21*

*19/4/22*  
*M.S.*

The amount of Entry Fee ... £ 3 : 0 : 0 When applied for.  
Special ... £ 18 : 0 : 0 *14/4/22*  
Donkey Boiler Fee ... £ : : :  
Travelling Expenses (if any) £ : : : *10/5/22*  
*Wm*

Committee's Minute *GLASGOW 18 APR 1922*  
Assigned *+ LMC 4.22*  
*gtd*  
Engineer Surveyor to Lloyd's Register of Shipping. *S. F. Dorey*

