

# REPORT ON MACHINERY.

No. 38442

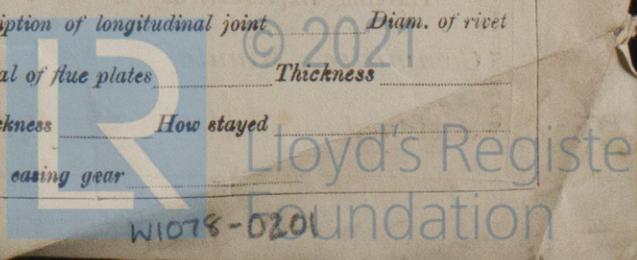
Received at London Office

WED. JAN. 15. 1919

Date of writing Report \_\_\_\_\_ When handed in at Local Office \_\_\_\_\_ 19 \_\_\_\_\_ Port of Glasgow  
 Date, First Survey 8<sup>th</sup> May 1918 Last Survey 2<sup>nd</sup> Jan 1919  
 (Number of Visits 5<sup>th</sup>)  
 Survey held at Glasgow  
 on the S.S. WARJASMINE  
 Built at Glasgow By whom built Harland & Wolff (No 548) When built 1918  
 Engines made at Glasgow By whom made Harland & Wolff (No 549) when made 1918  
 Boilers made at Greenock By whom made Caird & Co (No 538) when made 1918  
 Registered Horse Power \_\_\_\_\_ Owners The Shipping Controller & Mr. Jones & Co Managers Port belonging to London  
 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

**ENGINES, &c.—Description of Engines** Triple Expansion No. of Cylinders 3 No. of Cranks 3  
 No. of Cylinders 27-44-73 Length of Stroke 48 Revs. per minute 77 Dia. of Screw shaft 14.7 Material of Steel  
 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  
 the propeller boss yes If the liner is in more than one length are the joints burned no 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 \_\_\_\_\_ Length of stern bush 60 1/2  
 Dia. of Tunnel shaft 13.33 Dia. of Crank shaft journals 14 Dia. of Crank pin 14 1/2 Size of Crank webs 28x9 Dia. of thrust shaft under  
 bars 14 3/4 Dia. of screw 17-6 Pitch of Screw 16-6 No. of Blades 4 State whether moveable no Total surface 102 1/4  
 No. of Feed pumps 2 Diameter of ditto 4 Stroke 24 Can one be overhauled while the other is at work yes  
 No. of Bilge pumps 2 Diameter of ditto 4 Stroke 24 Can one be overhauled while the other is at work yes  
 No. of Donkey Engines 3 Sizes of Pumps 1 fed 9 1/2 x 7 1/2 1 general 9 1/2 x 7 1/2 1 Ballast 10 1/2 x 14 1/2 1 Land out No. and size of Suctions connected to both Bilge and Donkey pumps  
 Engine Room Two of 3 1/2" Stroke hold a two of 3 1/2" In Holds, &c. No 1 Two of 3 1/2" No 2 Two of 3 1/2"  
No 3 Two of 3 1/2" No 4 Two of 3 1/2" Lummer well one of 3 1/2"  
 No. of Bilge Injections 1 sizes 12" Connected to condenser, or to circulating pump Pump Is a separate Donkey Suction fitted in Engine room & size 3 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 both  
 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 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 are carried through the bunkers 1 d suction How are they protected wood casing  
 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  
 Dates of examination of completion of fitting of Sea Connections 10.12.18 of Stern Tube 10.12.18 Screw shaft and Propeller 10.12.18  
 Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door no worked from entry by trunkway

**BOILERS, &c.—(Letter for record S)** Manufacturers of Steel See separate Enk Rpt No 17395  
 Total Heating Surface of Boilers 7684 Is Forced Draft fitted yes No. and Description of Boilers 3 Simple ended  
 Working Pressure 180 Tested by hydraulic pressure to \_\_\_\_\_ Date of test 7-10-18 No. of Certificate 1362  
 Can each boiler be worked separately yes Area of fire grate in each boiler 63.34 No. and Description of Safety Valves to  
 each boiler 2 spring loaded Area of each valve 9.620 Pressure to which they are adjusted 185 Are they fitted with easing gear yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork 1-9 Mean dia. of boilers \_\_\_\_\_ Length \_\_\_\_\_ Material of shell plates \_\_\_\_\_  
 Thickness \_\_\_\_\_ Range of tensile strength \_\_\_\_\_ Are the shell plates welded or flanged \_\_\_\_\_ Descrip. of riveting: cir. seams \_\_\_\_\_  
 Diameter of rivet holes in long. seams \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Lap of plates or width of butt straps \_\_\_\_\_  
 Percentages of strength of longitudinal joint \_\_\_\_\_ Working pressure of shell by rules \_\_\_\_\_ Size of manhole in shell \_\_\_\_\_  
 No. and Description of Furnaces in each boiler 3 Weight ton Material \_\_\_\_\_ Outside diameter \_\_\_\_\_  
 Thickness of plates \_\_\_\_\_ Description of longitudinal joint \_\_\_\_\_ No. of strengthening rings \_\_\_\_\_  
 Working pressure of furnace by the rules \_\_\_\_\_ Combustion chamber plates: Material \_\_\_\_\_ Thickness: Sides \_\_\_\_\_ Back \_\_\_\_\_ Top \_\_\_\_\_ Bottom \_\_\_\_\_  
 No. of stays to ditto: Sides \_\_\_\_\_ Back \_\_\_\_\_ Top \_\_\_\_\_ If stays are fitted with nuts or riveted heads \_\_\_\_\_ Working pressure by rules \_\_\_\_\_  
 Material of stays \_\_\_\_\_ Diameter at smallest part \_\_\_\_\_ Area supported by each stay \_\_\_\_\_ Working pressure by rules \_\_\_\_\_ End plates in steam space: \_\_\_\_\_  
 Material \_\_\_\_\_ Thickness \_\_\_\_\_ Pitch of stays \_\_\_\_\_ How are stays secured \_\_\_\_\_ Working pressure by rules \_\_\_\_\_ Material of stays \_\_\_\_\_  
 Diameter at smallest part \_\_\_\_\_ Area supported by each stay \_\_\_\_\_ Working pressure by rules \_\_\_\_\_ Material of Front plates at bottom \_\_\_\_\_  
 Thickness \_\_\_\_\_ Material of Lower back plate \_\_\_\_\_ Thickness \_\_\_\_\_ Greatest pitch of stays \_\_\_\_\_ Working pressure of plate by rules \_\_\_\_\_  
 Diameter of tubes \_\_\_\_\_ Pitch of tubes \_\_\_\_\_ Material of tube plates \_\_\_\_\_ Thickness: Front \_\_\_\_\_ Back \_\_\_\_\_ Mean pitch of stays \_\_\_\_\_  
 Working pressures by rules \_\_\_\_\_ Girders to Chamber tops: Material \_\_\_\_\_ Depth and \_\_\_\_\_  
 Length as per rule \_\_\_\_\_ Distance apart \_\_\_\_\_ Number and pitch of stays in each \_\_\_\_\_  
 Superheater or Steam chest; how connected to boiler \_\_\_\_\_ Can the superheater be shut off and the boiler worked \_\_\_\_\_  
 Diameter \_\_\_\_\_ Length \_\_\_\_\_ Thickness of shell plates \_\_\_\_\_ Material \_\_\_\_\_ Description of longitudinal joint \_\_\_\_\_ Diam. of rivet \_\_\_\_\_  
 Pitch of rivets \_\_\_\_\_ Working pressure of shell by rules \_\_\_\_\_ Diameter of flue \_\_\_\_\_ Material of flue plates \_\_\_\_\_ Thickness \_\_\_\_\_  
 Distance between rings \_\_\_\_\_ Working pressure by rules \_\_\_\_\_ End plates: Thickness \_\_\_\_\_ How stayed \_\_\_\_\_  
 Area of safety valves to superheater \_\_\_\_\_ Are they fitted with easing gear \_\_\_\_\_



**VERTICAL DONKEY BOILER—** Manufacturers of Steel

No. *1110* Description \_\_\_\_\_

Made at \_\_\_\_\_ By whom made \_\_\_\_\_ When made \_\_\_\_\_ Where fixed \_\_\_\_\_

Working pressure tested by hydraulic pressure to \_\_\_\_\_ Date of test \_\_\_\_\_ No. of Certificate \_\_\_\_\_ Fire grate area \_\_\_\_\_ Description of Safety \_\_\_\_\_

Valves \_\_\_\_\_ No. of Safety Valves \_\_\_\_\_ Area of each \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ Date of adjustment \_\_\_\_\_

If fitted with easing gear \_\_\_\_\_ If steam from main boilers can enter the donkey boiler \_\_\_\_\_ Dia. of donkey boiler \_\_\_\_\_ Length \_\_\_\_\_

Material of shell plates \_\_\_\_\_ Thickness \_\_\_\_\_ Range of tensile strength \_\_\_\_\_ Descrip. of riveting long. seams \_\_\_\_\_

Dia. of rivet holes \_\_\_\_\_ Whether punched or drilled \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Lap of plating \_\_\_\_\_ Per centage of strength of joint \_\_\_\_\_ Rivets \_\_\_\_\_ Plates \_\_\_\_\_

Working pressure of shell by rules \_\_\_\_\_ Thickness of shell crown plates \_\_\_\_\_ Radius of do. \_\_\_\_\_ No. of stays to do. \_\_\_\_\_ Dia. of stays \_\_\_\_\_

Diameter of furnace Top \_\_\_\_\_ Bottom \_\_\_\_\_ Length of furnace \_\_\_\_\_ Thickness of furnace plates \_\_\_\_\_ Description of joint \_\_\_\_\_

Working pressure of furnace by rules \_\_\_\_\_ Thickness of furnace crown plates \_\_\_\_\_ Radius of do. \_\_\_\_\_ Stayed by \_\_\_\_\_

Diameter of uptake \_\_\_\_\_ Thickness of uptake plates \_\_\_\_\_ Thickness of water tubes \_\_\_\_\_ Dates of survey \_\_\_\_\_

**SPARE GEAR.** State the articles supplied:— 2 top end & 2 bottom end & 2 main bearings and 6 coupler bolts and nuts, set of feed and belt pump valves assorted iron, bolts and nuts and other spares as required by specification

*H. Harland & Wolff, Ltd.,*  
The foregoing is a correct description,  
*H. Harbeck*  
GENERAL MANUFACTURER.

Dates of Survey while building	During progress of work in shops --	1918. May 8, 16, 21, 23, 28, 30. June 3, 5, 12, 19, 24, 27. July 1, 3, 5, 8, 10, 11, 24, 29, 30, 31. Aug 2, 19, 22, 26, 27, 28. Sept 6, 9, 11, 17.
	During erection on board vessel ---	19. 24, 26. Oct 2, 4, 9, 14, 16, 17, 29. Nov 4, 6, 20. Dec 3, 6, 10, 16, 18, 24, 27, 28, 30. Jan 2.
	Total No. of visits	54.

Is the approved plan of main boiler forwarded herewith

" " " donkey " " "

**Dates of Examination of principal parts**—Cylinders 14.10.18 Slides 14.10.18 Covers 14.10.18 Pistons 4.10.18 Rods 14.10.18

Connecting rods 14.10.18 Crank shaft 6.11.18 Thrust shaft 14.10.18 Tunnel shafts 6.12.18 Screw shaft 6.12.18 Propeller 6.12.18

Stern tube 6.12.18 Steam pipes tested 15.10.18 Engine and boiler seatings 24.12.18 Engines holding down bolts 23.12.18

Completion of pumping arrangements 28.12.18 Boilers fixed 30.12.18 Engines tried under steam 30.12.18, 2.1.19

Main boiler safety valves adjusted 28.12.18 Thickness of adjusting washers Sta B<sub>2</sub> S<sub>32</sub> " Pt 7/16" Centre Sta B<sub>2</sub> Pt 3/16" Pt B<sub>2</sub> S<sub>32</sub> " Pt 7/16" 11553A

Material of Crank shaft *Steel* Identification Mark on Do. 549JE Material of Thrust shaft *Steel* Identification Mark on Do. W.S.12.F. 10242473JP, 1053.196WGH, 12032472JP, 1251.2475JP, 11385A849JP, 1029

Material of Tunnel shafts *Steel* Identification Marks on Do. A Material of Screw shafts *Steel* Identification Marks on Do. 11523A 204

Material of Steam Pipes *Iron* Test pressure 540 lb ✓

**General Remarks** (State quality of workmanship, opinions as to class, &c.) The machinery of this vessel has been constructed under special survey in accordance with the Rules and approved plans and has been seen working under steam satisfactorily. Materials and workmanship are good.

The machinery is eligible in my opinion to be classed + LMC 1-19.

It is submitted that this vessel is eligible for THE RECORD. + LMC 1-19. F.D.

*J.W.D.*  
16/1/19

*Jas Easthope*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

The amount of Entry Fee .. £	:	:	When applied for,
Special .. .. . £ 84	:	14	3 8-1-19
Donkey Boiler Fee .. .. £	:	:	When received,
Travelling Expenses (if any) £	:	:	8-3-19

Committee's Minute **GLASGOW** 14 JAN 1919

Assigned + LMC 1-19

MADE BY CERTIFICATE  
15/1/19  
87



Certificate (if required) to be sent to Glasgow

JAC:  
11-1-19

Rpt. 5a.  
Date of writing  
No. in Reg. Book.  
Master  
Engines made  
Boilers made  
Registered  
MULTIT  
(Letter for  
Boilers  
No. of Certificate  
safety valves  
Are they fitted  
Smallest diameter  
Material of  
Descrip. of  
Lap of plates  
rules  
boiler  
Description of  
plates: Mater  
Top  
smallest part  
Pitch of stays  
Area supported  
Lower back pl  
Pitch of tubes  
water spaces  
girder at centr  
Working press  
separately  
holes  
If stiffened with  
Working press  
Dates of Survey while building  
GENERAL  
accord  
Survey Fee  
Travelling  
Assigned  
Assigned