

REPORT ON MACHINERY

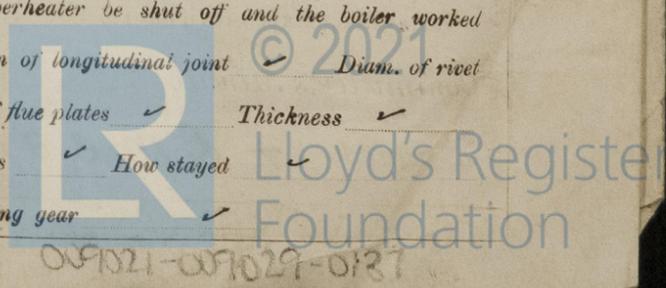
No. 38549

WED. 19. MAR. 1919

of writing Report 7th Mar 19 When handed in at Local Office 19 Port of Glasgow
 in Survey held at Glasgow Date, First Survey Mar 27th 1918 Last Survey 6th March 1919
 Book on the S.S. "War Rother" (C.S. Coaster Class) (Number of Visits 12)
 Built at Campbeltown By whom built Campbeltown S.B. Co (No 109) Tons ^{Gross} 1350
 When built 1919
 Engines made at Glasgow By whom made Ross & Duncan. Ings 1051 when made 1919
 Boilers made at Glasgow By whom made Ross & Duncan. Boilers No 1565/6 when made 1919
 Registered Horse Power 172 Owners J. Hay & Co for Ship's Contr. Port belonging to London.
 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3
 of Cylinders 18x30x50 Length of Stroke 33 Revs. per minute 90 Dia. of Screw shaft as per rule 10.7 10.46 Material of screw shaft S
 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
 the propeller boss Yes If the liner is in more than one length are the joints burned Yes 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
 shafts are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 43"
 Dia. of Tunnel shaft as per rule 9.22 03 Dia. of Crank shaft journals as per rule 9.22 49 Dia. of Crank pin 9.3/4 Size of Crank webs 18x6 Dia. of thrust shaft under
 cranks 9.3/4 Dia. of screw 13'-3" Pitch of Screw 14'-6" No. of Blades 4 State whether moveable No Total surface 60 #
 of Feed pumps 2 Diameter of ditto 2 1/2" Stroke 18" Can one be overhauled while the other is at work Yes
 of Bilge pumps 2 Diameter of ditto 2 1/2" Stroke 18" Can one be overhauled while the other is at work Yes
 of Donkey Engines Two Sizes of Pumps 7x5x12 Ballast 7x8x8 No. and size of Suctions connected to both Bilge and Donkey pumps
 Engine Room 2 @ 2 1/2" in Eng Room. 2 @ 2 1/2" in Stikehold In Holds, &c. Fore hold 2 @ 2 1/4" after hold one @ 2 1/2"
 Tunnel 1 @ 2 1/2"
 of Bilge Injections One sizes 7" Connected to condenser, or to circulating pump C.P. Is a separate Donkey/Suction fitted in Engine room & size 2 1/2"
 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 how
 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 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
 at pipes are carried through the bunkers Fore hold Suctions How are they protected Strong wood limba covers
 all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes
 the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges Yes
 of examination of completion of fitting of Sea Connections Greenock Rpt of Stern Tube Greenock Rpt Screw shaft and Propeller Greenock Rpt
 the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Upper Deck

BOILERS, &c.—(Letter for record 3) Manufacturers of Steel Glasgow Iron & Steel Co & David Colville & Sons
 Heating Surface of Boilers 2886 # Is Forced Draft fitted No No. and Description of Boilers Two Single ended Multitubular
 Working Pressure 150 lbs Tested by hydraulic pressure to 360 lbs Date of test 20-12-18 No. of Certificate 14561
 Can each boiler be worked separately Yes Area of fire grate in each boiler 48.5 # No. and Description of Safety Valves to
 boiler Two Spring loaded Area of each valve 4.9 # 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 5'-0" Mean dia. of boilers 18'-0" Length 10'-8" Material of shell plates S
 Thickness 1 1/16" Range of tensile strength 28/32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams L.D.R.
 Seams DL Staps T.R. Diameter of rivet holes in long. seams 1 1/8" Pitch of rivets 8" ~~Length of plates~~ width of butt straps 16 7/8"
 Percentages of strength of longitudinal joint 86.98 Working pressure of shell by rules 183 Size of manhole in shell 16x12"
 of compensating ring No heels No. and Description of Furnaces in each boiler Two Corrugated Material S Outside diameter 41 1/4"
 Length of plain part top Thickness of plates bottom 1 1/2" Description of longitudinal joint weld No. of strengthening rings how
 Working pressure of furnace by the rules 183 Combustion chamber plates: Material S Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 1 1/16"
 No. of stays to ditto: Sides 8 3/4 x 8 1/2" Back 8 7/8 x 8 3/8" Top 8 3/4 x 8 1/2" If stays are fitted with nuts or riveted heads hats Working pressure by rules 181
 Material of stays S Diameter at smallest part 1.79 # Area supported by each stay 74.3 Working pressure by rules 192 End plates in steam space:
 Material S Thickness 1 1/4" Pitch of stays 22 5/8 x 17 1/2" How are stays secured D. hats & washers Working pressure by rules 180 Material of stays Steel
 Diameter at smallest part 7.39 Area supported by each stay 395.9 Working pressure by rules 194 Material of Front plates at bottom S
 Thickness 1" Material of Lower back plate S Thickness 13/16" Greatest pitch of stays 13 x 8 7/8" Working pressure of plate by rules 184
 Diameter of tubes 3 1/4" Pitch of tubes 4 1/2" x 4 7/16" Material of tube plates S Thickness: Front 1" Back 3/4" Mean pitch of stays 10 3/16"
 across wide water spaces 14" Working pressures by rules 261 Girders to Chamber tops: Material S Depth and
 thickness of girder at centre 8 7/8 x 1 3/8" Length as per rule 30 5/8" Distance apart 8 3/4" Number and pitch of stays in each 2 @ 8 1/2"
 Working pressure by rules 184 Superheater or Steam chest; how connected to boiler Yes Can the superheater be shut off and the boiler worked
 safely Yes Diameter Yes Length Yes Thickness of shell plates Yes Material Yes Description of longitudinal joint Yes Diam. of rivet
Yes Pitch of rivets Yes Working pressure of shell by rules Yes Diameter of flue Yes Material of flue plates Yes Thickness Yes
 fitted with rings Yes Distance between rings Yes Working pressure by rules Yes End plates: Thickness Yes How stayed Yes
 Working pressure of end plates Yes Area of safety valves to superheater Yes Are they fitted with easing gear Yes



No donkey boiler fitted

VERTICAL DONKEY BOILER— Manufacturers of Steel

No. _____ 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:— *1 set each of piston rod crosshead bolts & nuts, bottom end bolts & nuts, main bearing bolts & nuts, coupling bolts & nuts, feed, ridge & air pump valves, assorted iron bolts & nuts, and other spares as per specification.*

The foregoing is a correct description,
Ross Duncan & Wmson Manufacturer.

Dates of Survey while building	During progress of work in shops	1918. Mar 21. Apr 15. May 2. 7. 10. 24. 28. June 10. 14. 17. 21. 25. 28. July 2. 4. Aug 13. 21. Sept 2. 9. 13. Oct 1. 3.
	During erection on board vessel	14. 18. 22. 28. 30. 31. Nov. 6. 11. 18. 21. 25. 27. Dec. 6. 10. 16. 20. 23. 26. 27. (1919) Jan 10. 20. Feb 12. 14. 18. 28(2) May 1. 3.
	Total No. of visits	42.

Is the approved plan of main boiler forwarded herewith *Yes*

Dates of Examination of principal parts—Cylinders	1-10-18	Slides	18-11-18	Covers	18-11-18	Pistons	13-9-18	Rods	3-10-18
Connecting rods	18-11-18	Crank shaft	3-10-18	Thrust shaft	22-10-18	Tunnel shafts	6-12-18	Screw shaft	16-12-18
Stern tube	16-12-18	Steam pipes tested	12-2-19	Engine and boiler seatings	<i>Swanock Rpt</i>	Engines holding down bolts	14-2-19		
Completion of pumping arrangements	5-3-19	Boilers fixed	18-2-19	Engines tried under steam	28-2-19				
Main boiler safety valves adjusted	28-2-19	Thickness of adjusting washers	P. S.V. 3/32 P.V. 7/32. S. S.V. 3/16 P.V. 9/16						
Material of Crank shaft	<i>S</i>	Identification Mark on Do.	3-10-18. J.E.S. LLOYDS. N° 1051	Material of Thrust shaft	<i>S</i>	Identification Mark on Do.	22-10-18. J.E.S. LLOYDS. N° 1051		
Material of Tunnel shafts	<i>S</i>	Identification Marks on Do.	6-12-18. J.E.S.	Material of Screw shafts	<i>S</i>	Identification Marks on Do.	16-12-18. J.E.S.		
Material of Steam Pipes	<i>Seamless steel 4 x 3/16 Seamless Copper 4 x 7/16</i>	Test pressure	540 lbs & 360 lbs						

General Remarks (State quality of workmanship, opinions as to class, &c.)
The Engines & Boilers have been built under special survey, and in accordance with the Rules. The materials and workmanship are sound and good. They have been fitted on board in an efficient manner, tried under working conditions and found satisfactory, and are eligible in my opinion to be classed in the Register Book with record of L.M.C. 3-19.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 3.19

H. 20/3/19
J.R.R.

Certificate (if required) to be sent to Glasgow.

The amount of Entry Fee	£ 7	When applied for,	13/3/19
Special	£ 30	When received,	15/3/19
Donkey Boiler Fee	£ 3		
Travelling Expenses (if any)	£		

J. S. Keller
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute **GLASGOW 18 MAR 1919**

Assigned + L.M.C. 3.19
 MACHINERY CERTIFICATE
 REGISTERED 19/3/19

