

## REPORT ON MACHINERY.

No. 76306

Received at London Office

SAT. JAN. 6 1923

Date of writing Report *Dec 2<sup>nd</sup> 1922* When handed in at Local Office *Jan 5<sup>th</sup> 1923* Port of *NEWCASTLE-ON-TYNE*No. in Survey held at *Newcastle-on-Tyne* Date, First Survey *Aug 10<sup>th</sup> 1922* Last Survey *Jan 4<sup>th</sup> 1923*  
Reg. Book. *1573* on the *Steel screw steamer "Rotha"* (Number of Visits *26*)Master *✓* Built at *Newcastle* By whom built *Wood Skinner* Tons { Gross *1400*  
Net *993*  
When built *1922*Engines made at *Newcastle-on-Tyne* By whom made *North Eastern Marine & Co Ltd* when made *1922*Boilers made at *✓* By whom made *✓* when made *1922*Registered Horse Power *208* Owners *The Sharp & R. Co Ltd* Port belonging to *Newcastle*Nom. Horse Power as per Section 28 *208* Is Refrigerating Machinery fitted for cargo purposes *✓* Is Electric Light fitted *✓*ENGINES, &c.—Description of Engines *Triple Expansion* No. of Cylinders *3* No. of Cranks *3*Dia. of Cylinders *20-33-54* Length of Stroke *36* Revs. per minute *76* Dia. of Screw shaft *as per rule 11.4"* Material of *Iron*  
*as fitted 11.4"* screw shaftIs the screw shaft fitted with a continuous liner the whole length of the stern tube *✓* Is the after end of the liner made water tightin the propeller boss *✓* If the liner is in more than one length are the joints burned *✓* If the liner does not fit tightly at the partbetween the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive *✓* If twoliners are fitted, is the shaft lapped or protected between the liners *✓* Length of stern bush *4-1"*Dia. of Tunnel shaft *as per rule 9.93"* Dia. of Crank shaft journals *as per rule 10.4"* Dia. of Crank pin *10.4"* Size of Crank webs *7.4"* Dia. of thrust shaft undercollars *10.4"* Dia. of screw *4-3"* Pitch of Screw *14-3"* No. of Blades *4* State whether moreable *✓* Total surface *61.5"*No. of Feed pumps *2* Diameter of ditto *3.6"* Stroke *20"* Can one be overhauled while the other is at work *✓*No. of Bilge pumps *2* Diameter of ditto *3.6"* Stroke *20"* Can one be overhauled while the other is at work *✓*No. of Donkey Engines *1* Sizes of Pumps *Ballast 9" x 11" x 10"* No. and size of Suctions connected to both Bilge and Donkey pumpsIn Engine Room *2-3"* *Stokehold 2-3"* In Holds, &c. *2-3" Fore hold - 2-3" after hold*No. of Bilge Injections / sizes *6"* Connected to condenser or to circulating pump *✓* Is a separate Donkey Suction fitted in Engine room & size *2-3"*Are all the bilge suction pipes fitted with roses *✓* Are the roses in Engine room always accessible *✓* Are the sluices on Engine room bulkheads always accessible *none*Are all connections with the sea direct on the skin of the ship *✓* Are they Valves or Cocks *Both*Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates *✓* 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 *✓* Are the Blow Off Cocks fitted with a spigot and brass covering plate *✓*What pipes are carried through the bunkers *none* How are they protected *✓*Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times *✓*Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges *✓*Is the Screw Shaft Tunnel watertight *✓* Is it fitted with a watertight door *✓* worked from *Upper platform*BOILERS, &c.—(Letter for record *✓*) Manufacturers of Steel *John Spencer*Total Heating Surface of Boilers *3440* Is Forced Draft fitted *no* No. and Description of Boilers *2 Single Ended*Working Pressure *180 psi* Tested by hydraulic pressure to *320 psi* Date of test *11.10.22* No. of Certificate *9692*Can each boiler be worked separately *✓* Area of fire grate in each boiler *49.5* No. and Description of Safety Valves toeach boiler *2 Spring loaded* Area of each valve *5.93* Pressure to which they are adjusted *185 psi* Are they fitted with easing gear *✓*Smallest distance between boilers or uptakes and bunkers or woodwork *13"* Mean dia. of boilers *13.9"* Length *10.6"* Material of shell plates *steel*Thickness *1.5"* Range of tensile strength *28-32* Are the shell plates welded or flanged *no* Descrip. of riveting: cir. seams *D. Lap*long. seams *D. Staps* Diameter of rivet holes in long. seams *1.5"* Pitch of rivets *8.5"* Lap of plates or width of butt straps *18"*Per centages of strength of longitudinal joint rivets *90.4* Working pressure of shell by rules *181.7* Size of manhole in shell *16" x 12"*Size of compensating ring *Plugged* No. and Description of Furnaces in each boiler *3 Brighton* Material *steel* Outside diameter *3-2.5"*Length of plain part *top 1.5"* Thickness of plates *bottom 1.5"* Description of longitudinal joint *Welded* No. of strengthening rings *none*Working pressure of furnace by the rules *180.5* Combustion chamber plates: Material *steel* Thickness: Sides *3.5"* Back *1.5"* Top *3.5"* Bottom *1.5"*Pitch of stays to ditto: Sides *10.5 x 9.5"* Back *10.5 x 8"* Top *10.5 x 9.5"* If stays are fitted with nuts or riveted heads *nuts* Working pressure by rules *183.5*Material of stays *steel* Area at smallest part *7.23* Area supported by each stay *75.4* Working pressure by rules *183.5* End plates in steam space:Material *steel* Thickness *1.5"* Pitch of stays *24 x 17.5"* How are stays secured *8 nuts* Working pressure by rules *181.5* Material of stays *steel*Area at smallest part *7.07* Area supported by each stay *42.6* Working pressure by rules *188* Material of Front plates at bottom *steel*Thickness *1.5"* Material of Lower back plate *steel* Thickness *3.5"* Greatest pitch of stays *4.5 x 10.5"* Working pressure of plate by rules *180*Diameter of tubes *3.5"* Pitch of tubes *4.5"* Material of tube plates *steel* Thickness: Front *1.5"* Back *1.5"* Mean pitch of stays *9.4"*Pitch across wide water spaces *4.5 x 9"* Working pressures by rules *182* Girders to Chamber tops: Material *steel* Depth andthickness of girder at centre *8.5 x 1.5"* Length as per rule *2-7"* Distance apart *10.5"* Number and pitch of stays in each *2-9.5"*Working pressure by rules *182.5* Steam dome: description of joint to shell *none* % of strength of joint *✓*Diameter *✓* Thickness of shell plates *✓* Material *✓* Description of longitudinal joint *✓* Diam. of rivet holes *✓*Pitch of rivets *✓* Working pressure of shell by rules *✓* Crown plates *✓* Thickness *✓* How stayed *✓*SUPERHEATER. Type *none* Date of Approval of Plan *✓* Tested by Hydraulic Pressure to *✓*Date of Test *✓* Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler *✓*Diameter of Safety Valve *✓* Pressure to which each is adjusted *✓* Is Easing Gear fitted *✓*

002094-002100-0143

no

*If so, is a report now forwarded?*

SPARE GEAR. State the articles supplied:—2 Top end, 2 bottom end, 2 main bearing, and 6 coupling bolts & nuts. one feed & one helge pump valve & seat, 2 set of check valves.  $\frac{1}{2}$  Cmt of iron plate.  $\frac{1}{2}$  Cmt of Iron bars. 100 bolts & nuts assorted. 3 boiler tubes. 3 condenser tubes 6 cylinder cover, and 4 valve chest studs. 6 piston bolts & nuts, and other minor articles

*The foregoing is a correct description,*  
THE NORTH EASTERN MARINE ENGINEERING Co., LTD.

*J. J. Harrison*  
Secretary.

*Manufacturer.*

Dates of Survey while building	{	During progress of work in shops - -	1922 Aug 10-15-22 Sept 1-5-11-15-18-25-26-27-29 Oct 5-11-13-16-18-19-22 Nov 3-
		During erection on board vessel - -	1922 Nov 7-21-23-27-30-1923 Jan 4 <sup>th</sup>
		Total No. of visits	26

Is the approved plan of main boiler

*Is the approved plan of main boiler forwarded herewith*

Les

" " " donkey " " none

Zone

Dates of Examination of principal parts—Cylinders	25.9.22	Slides	5.9.22	Covers	5.10.22	Pistons	5.9.22	Rods	27.9.22
Connecting rods	11.9.22	Crank shaft	26.9.22	Thrust shaft	18.9.22	Tunnel shafts	18.10.22	Screw shaft	16.10.22
Stern tube	5.9.22	Steam pipes tested	23.11.22	Engine and boiler seatings	21.11.22	Engines holding down bolts	27.11.22		
Completion of pumping arrangements	27.11.22	Boilers fixed	23.11.22	Engines tried under steam	30.11.22				
Completion of fitting sea connections	3.11.22	Stern tube	3.11.22	Screw shaft and propeller	21.11.22				
Main boiler safety valves adjusted	30.11.22	Thickness of adjusting washers	$P = \frac{1}{16}$ "	$S = \frac{15}{32}$ "	$P = \frac{1}{32}$ "	$S = \frac{15}{32}$ "			
Material of Crank shaft	steel	Identification Mark on Do.	18.26.9.22	Material of Thrust shaft	steel	Identification Mark on Do.	18.18.9.22		
Material of Tunnel shafts	steel	Identification Marks on Do.	18.18.10.22	Material of Screw shafts	Iron	Identification Marks on Do.	18.16.10.22		
Material of Steam Pipes	solid drawn copper	Test pressure	360 lbs						

Is an installation fitted for burning oil fuel

*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 no If so, state name of vessel

*General Remarks* (State quality of workmanship, opinions as to class, &c. *This vessel's machinery has been examined during construction, and the materials and workmanship are good and in accordance with the requirements of the rules, and the approved plans. On completion it was submitted to a steam trial with satisfactory results among which the safety valves were adjusted to the working pressure.*

It is therefore eligible in my opinion to be classed with the notation of  $+LMC.1.28$  in the R. Book.

It is submitted that  
this vessel is eligible for  
**THE RECORD.** + L.M.C. 123. C.L.

C.L.  
A.M.  
8/1/23

The amount of Entry Fee	...	£	4	:	0	:	When applied for.
Special	...	£	52	:	0	:	15/10/22 19. 22
Donkey Boiler Fee	...	£	:	:	:	:	When received.
Travelling Expenses (if any)	£	:	:	:	:	:	22/12/22 19. 22

Maurice Ritzore

*Engineer Surveyor to Lloyd's Register of Shipping.*

Committee's Minute

FRI. JAN. 12 1923

*Assigned*

+ L<sup>g</sup>mb 1.23

C. L.

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CERTIFICATE WRITTEN