

REPORT ON MACHINERY.

No. 76340
THU. JAN. 18 1923

Received at London Office

Date of writing Report *Feb 16th 1923* When handed in at Local Office *Jan 3rd 1923* Port of *NEWCASTLE-ON-TYNE*
 No. in Survey held at *Newcastle-on-Tyne* Date, First Survey *Aug 2nd 1922* Last Survey *Jan 3rd 1923*
 Reg. Book. *80782* on the *Steel screw Steamer "Sapper"* (Number of Visits *26*)
 Master *-* Built at *Waller* By whom built *Wm Johnson & Co* (220) Tons { Gross *1040 2/4*
 Engines made at *Waller* By whom made *North Eastern Marine & Co. Ltd* (250) when made *1923*
 Boilers made at *Sunderland* By whom made *North Eastern Marine & Co. Ltd* when made *1923*
 Registered Horse Power *-* Owners *Fisher Rendwick & Co* Port belonging to *Manchester*
 Nom. Horse Power as per Section 28 *192* 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*
 Dia. of Cylinders *18"-30"-49"* Length of Stroke *33* Revs. per minute *96* Dia. of Screw shaft *10 1/2"* Material of screw shaft *Iron*
 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 *-* 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 *-* If two
 liners are fitted, is the shaft lapped or protected between the liners *-* Length of stern bush *3'-9"*
 Dia. of Tunnel shaft *9 1/2"* as per rule *9 1/2"* Dia. of Crank shaft journals *9 1/2"* as per rule *9 1/2"* Dia. of Crank pin *9 1/2"* Size of Crank webs *15 1/2" x 6"* Dia. of thrust shaft under
 collars *9 1/2"* as fitted *9 1/2"* Dia. of screw *12-6"* Pitch of Screw *12-6"* No. of Blades *4* State whether moveable *no* Total surface *48 ft²*
 No. of Feed pumps *2* Diameter of ditto *3"* Stroke *16 1/2"* Can one be overhauled while the other is at work *Yes*
 No. of Bilge pumps *2* Diameter of ditto *3"* Stroke *16 1/2"* Can one be overhauled while the other is at work *Yes*
 No. of Donkey Engines *3* Sizes of Pumps *6-2 1/2" and 2-2 1/2" in dry tank* No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room *3-2" and 2-2 1/2" in dry tank* In Holds, &c. *6-2" and one 2 1/2" funnel well*

No. of Bilge Injections *the sizes* *6"* Connected to *condenser, or to circulating pump* *Yes* Is a separate Donkey Suction fitted in Engine room & size *Yes 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 *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 *None to the fore hold* How are they protected *Wooden casings*
 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 *Yes* Is it fitted with a watertight door *Yes* worked from *the upper platform*
See Sunderland report no 28431

BOILERS, &c.—(Letter for record *2SB*) Manufacturers of Steel *See Sunderland report no 28431*
 Total Heating Surface of Boilers *3636 ft²* Is Forced Draft fitted *no* No. and Description of Boilers *2 S.E. Multitubular*
 Working Pressure *180 lbs* Tested by hydraulic pressure to *-* Date of test *-* No. of Certificate *-*
 Can each boiler be worked separately *Yes* Area of fire grate in each boiler *48.5 ft²* No. and Description of Safety Valves to
 each boiler *2 Spring loaded* Area of each valve *5.94 ft²* 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 *15"* 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 *-*
 long. seams *-* Diameter of rivet holes in long. seams *-* Pitch of rivets *-* Lap of plates or width of butt straps *-*
 Per centages of strength of longitudinal joint *-* Working pressure of shell by rules *-* Size of manhole in shell *-*
 Size of compensating ring *-* No. and Description of Furnaces in each boiler *-* Material *-* Outside diameter *-*
 Length of plain part *-* 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 *-*
 Pitch of stays to ditto: Sides *-* Back *-* Top *-* If stays are fitted with nuts or riveted heads *-* Working pressure by rules *-*
 Material of stays *-* Area 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 *-*
 Area 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 *-*
 Pitch across wide water spaces *-* Working pressures by rules *-* Girders to Chamber tops: Material *-* Depth and
 thickness of girder at centre *-* Length as per rule *-* Distance apart *-* Number and pitch of stays in each *-*
 Working pressure by rules *-* Steam dome: description of joint to shell *-* % 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 *-*

no ✓

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— 2 Top end, and 2 bottom end bolts & nuts. 2 main bearing bolts and nuts, one set of coupling bolts and nuts, a set of feed and bilge pump valves, a quantity of assorted bolts and nuts. Iron of various sizes. 30 fire bars. one cast iron propeller, and sundry minor details.

THE NORTH EASTERN MARINE ENGINEERING Co., LTD.

EASTERN MARINE ENGINEERING CO., LTD.
E. J. Harrison
 Secretary

Manufacturer.

Dates of Survey while building	{	During progress of work in shops - -	1922. Aug 2. Sept 1. 4. 11. 27. 29. Oct 3. 4. 5. 9. 11. 12. 13. 18. 23. 24 " Nov 14. 27. Dec 1
		During erection on board vessel - - -	1922. Dec 4. 6. 8. 11. 14. 19 - 1923 Jan 3 rd
		Total No. of visits	26
			Is the approved plan of main boiler

Is the approved plan of main boiler forwarded herewith *and checked & sent report.*
28431

Dates of Examination of principal parts—Cylinders		27.9.22	Slides	5.10.22	Covers	5.10.22	Pistons	5.10.22	Rods	27.11.22
Connecting rods		11.9.22	Crank shaft	1.9.23	Thrust shaft	27.9.22	Tunnel shafts	9.10.22	Screw shaft	13.10.22
Stern tube		23.10.22	Steam pipes tested	12.10.22 8.12.22	Engine and boiler seatings	4.12.22	Engines holding down bolts	11.12.22		
Completion of pumping arrangements		14.12.22	Boilers fixed	6.12.22	Engines tried under steam	14.12.22				
Completion of fitting sea connections		14.12.22	Stern tube	14.11.22	Screw shaft and propeller	4.12.22				
Main boiler safety valves adjusted		14.12.22	Thickness of adjusting washers	Port Boiler 63.64 Nickel Rust $P = \frac{7}{16}$	Starboard Boiler $P = \frac{13}{32}$ $S = \frac{13}{32}$					
Material of Crank shaft		Steel	Identification Mark on Do.	MR. 1.9.22	Material of Thrust shaft	Steel	Identification Mark on Do.	MR. 27.9.22		
Material of Tunnel shafts		Steel	Identification Marks on Do.	MR. 9.10.22	Material of Screw shafts	Lion	Identification Marks on Do.	MR. 13.10.22		
Material of Steam Pipes		L.M. Steel	✓	Test pressure	540 lbs	✓				

Is an installation fitted for burning oil fuel Yes ✓

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 reeling machinery has been examined during construction and the materials and workmanship are good and in accordance with the requirements of the rules. On completion it was seen under working conditions under steam work satisfactory results when the safety valves were adjusted under steam.

It is therefore eligible in my opinion to be classed under the notation of +LMC.1.23. in the R. Book, working pressure 180 lbs.

It is submitted that
this vessel is eligible for
THE RECORD. + LMC 1-23. CL.

180 lb

Paul R. R. 18/1/23.

Francis Peterson

Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ...	£	3	:	0	:	0		When applied for,
<i>due to Newcastle</i>								
Special ...	£	24	:	9	:	0		12/11 1923
Donkey Boiler Fee ...	£		:		:			When received,
Travelling Expenses (if any) £			:		:			13/8 1923

Committee's Minute

Assigned

+ Lomb. 1.23
C.L.

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CERTIFICATE WRITTEN

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Foundation