

REPORT ON MACHINERY. No. 27791

Received at London Office

Date of writing Report 19 When handed in at Local Office 26 APR 1920 Port of Sunderland
 No. in Survey held at Sunderland Date, First Survey 4 April 19 Last Survey 17 April 1920
 Reg. Book. 32473 on the new steel S/S "LAHORE" (Number of Visits 34)
 Master P. C. Hallam Built at Sunderland By whom built R. Thompson & Sons Ltd of No. 312 When built 1920
 Engines made at Sunderland By whom made North Eastern Marine Eng. Co. Ltd (No. 2368) when made 1920
 Boilers made at Sunderland By whom made North Eastern Marine Eng. Co. Ltd (No. 2368) when made 1920
 Registered Horse Power _____ Owners P & O Steam Navigation Co Port belonging to Sunderland
 Nom. Horse Power as per Section 28 517 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 27" 44" 73" Length of Stroke 48" Revs. per minute 65 Dia. of Screw shaft 1.32" Material of screw shaft single 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 — 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 5'-0 1/2"
 Dia. of Tunnel shaft 1.32" as per rule 1.32" Dia. of Crank shaft journals 1.4" as per rule 1.4" Dia. of Crank pin 1.2 1/2" Size of Crank webs 22 1/2" x 9" Dia. of thrust shaft under
 collars 1.2 3/4" Dia. of screw 1.6" Pitch of Screw 16.6" No. of Blades 4 State whether moceable yes Total surface 102.50 sq ft
 No. of Feed pumps 2 Diameter of ditto 4" Stroke 2'-0" Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 4" Stroke 2'-0" Can one be overhauled while the other is at work yes
 No. of Donkey Engines 2 Sizes of Pumps 10 1/2" & 14" x 24" 9 1/2" & 7" x 18" No. and size of Suctions connected to both Bilge and Donkey pumps
 in Engine Room 4 @ 3 1/2" In Holds, &c. No. 1 hold - 2 @ 3 1/2" No. 2 hold - 2 @ 3 1/2"
cross bunker - 2 @ 3 1/2" No. 3 hold - 2 @ 3 1/2" No. 4 hold - 1 @ 3 1/2" Tunnel well - 1 @ 3"
 No. of Bilge Injections 1 sizes 1.3" Connected to condenser, or to circulating pump b.p. Is a separate Donkey Suction fitted in Engine room & size yes 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 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 forward hold suction How are they protected under timber boards
 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 Top platform

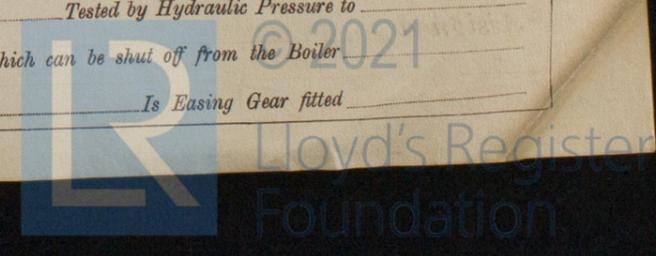
BOILERS, &c.—(Letter for record S) Manufacturers of Steel John Spencer & Sons Ltd J.S.B.
 Total Heating Surface of Boilers 76680 Is Forced Draft fitted yes No. and Description of Boilers Three single ended marine
 Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 11-9-19, 17-9-19, 24-9-19 No. of Certificate 3607, 3610, 3612
 Can each boiler be worked separately yes Area of fire grate in each boiler 63.30 sq ft No. and Description of Safety Valves to
 each boiler two direct spring Area of each valve 9.60" 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'-8" Mean dia. of boilers 15'-6" Length 11'-8 1/2" Material of shell plates steel
 Thickness 1 1/4" Range of tensile strength 28-32 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams DR lap
 long. seams DRS. TR. Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 9 7/8" Lap of plates or width of butt straps 1'-8 1/2"
 Per centages of strength of longitudinal joint rivets 85.5 Working pressure of shell by rules 181 Size of manhole in shell 16" x 12"
 Size of compensating ring flanged No. and Description of Furnaces in each boiler 3 Deighton Material steel Outside diameter 4'-2 3/16"
 Length of plain part top Thickness of plates crown 1 1/4" Description of longitudinal joint welded No. of strengthening rings —
 Working pressure of furnace by the rules 188 Combustion chamber plates: Material steel Thickness: Sides 25/32" Back 25/32" Top 25/32" Bottom 25/32"
 Pitch of stays to ditto: Sides 10 3/8" x 10 3/8" Back 11 1/8" x 9 1/2" Top 10 3/8" x 10 3/8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 180
 Material of stays steel Area at smallest part 2.360" Area supported by each stay 112.60" Working pressure by rules 187 End plates in steam space:
 Material steel Thickness 1 1/2" Pitch of stays 21" x 21 3/4" How are stays secured DR & W Working pressure by rules 187 Material of stays steel
 Area at smallest part 7.980" Area supported by each stay 4560" Working pressure by rules 181 Material of Front plates at bottom steel
 Thickness 3/32" Material of Lower back plate steel Thickness 1/8" Greatest pitch of stays 13 3/4" x 9 1/2" Working pressure of plate by rules 189
 Diameter of tubes 2 3/4" Pitch of tubes 4" x 3 1/8" Material of tube plates steel Thickness: Front 3/32" Back 3/4" Mean pitch of stays 12" x 7 3/4"
 Pitch across wide water spaces 13 5/8" Working pressures by rules 181 Girders to Chamber tops: Material steel Depth and
 thickness of girder at centre 9 1/2" x 1 3/4" Length as per rule 35.5" Distance apart 10 3/8" Number and pitch of stays in each 2 @ 10 3/8"
 Working pressure by rules 180 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 _____
 Tested by Hydraulic Pressure to _____

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

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

2m.7.19. T

0600-8221M



IS A DONKEY BOILER FITTED? *no*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— *Two connecting rod top and bottom end bolts and nuts. Two main bearing bolts. one set of coupling bolts. one set of feed and bilge pump valves. iron and bolts of various sizes. one screw shaft. two bronze propeller blades. a set of studs and nuts for one blade.*

The foregoing is a correct description,

FOR THE NORTH EASTERN MARINE ENGINEERING CO. LD

Geo. & W. W. W.

Manufacturer.

Dates of Survey while building { During progress of work in shops -- *1919 Apr 4, 28, May 20, 26, 29, Jun 6, 13, 20, 27, Jul 1, 7, 16, 18, 23, 24, Aug 1, 12, 15, 26, 28, 29, Sept 4, 11, 17, 23*
During erection on board vessel --- *24, 26, Oct 13, 14, 16, 20, 24, 28, Nov 11, 12, 24, Dec 8, 16, 17, 21, Jan 21, Feb 3, 13, 17, 18, 19, 20, 27, Mar 23, 4*
Total No. of visits *16, 18, 25, Apr 17, (54)* Is the approved plan of main boiler forwarded herewith *yes*
" " " donkey " " "

Dates of Examination of principal parts—Cylinders *26-9-19* Slides *13-10-19* Covers *26-9-19* Pistons *13-10-19* Rods *29-8-19*
Connecting rods *1-7-19* Crank shaft *4-9-19* Thrust shaft *4-9-19* Tunnel shafts *23-9-19* Screw shaft *17-12-19* Propeller *14-10-19*
Stern tube *22-1-20* Steam pipes tested *20-2-20* Engine and boiler seatings *3-2-20* Engines holding down bolts *27-2-20*
Completion of pumping arrangements *16-4-20* Boilers fixed *19-2-20* Engines tried under steam *5-3-20*
Completion of fitting sea connections *3-2-20* Stern tube *3-2-20* Screw shaft and propeller *13-2-20*
Main boiler safety valves adjusted *5-3-20* Thickness of adjusting washers *Pin. 1 1/2", 5 1/2"; benton bl. both 1 1/2"; stbd bl. - 1 1/2" 5 1/2"*
Material of Crank shaft *Steel* Identification Mark on Do. *2368 L.C.D.* Material of Thrust shaft *Steel* Identification Mark on Do. *2368 L.C.D.*
Material of Tunnel shafts *Steel* Identification Marks on Do. *2368 L.C.D.* Material of Screw shafts *one Steel* Identification Marks on Do. *2368 L.C.D.*
Material of Steam Pipes *Lapwelded wrought iron* Test pressure *540 lbs per sq"*

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 *Standard type "B"*

General Remarks (State quality of workmanship, opinions as to class, &c.)
The materials and workmanship are good. The machinery has been constructed under special survey and is eligible in my opinion for classification and the Record + L.M.C. 4, 20.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 4, 20 F.D.

J.W.D. 6/5/20 J.R.R.

SUNDERLAND.

Certificate (if required) to be sent to
The Surveyors are requested not to write on or below the space for Committee's Minute.

The amount of Entry Fee ... £ : : When applied for, *19-4-19-20*
Special ... £ *116=14+2* : :
Donkey Boiler Fee ... £ : : When received, *20/5/21 J.W.D.*
Travelling Expenses (if any) £ : : *21*

J.C. Davis
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI. MAY. 7 1920*
Assigned *+ L.M.C. 4, 20 J.W.D.*

CERTIFICATE WRITTEN.

