

# REPORT ON MACHINERY.

WED. 13 APR. 1921

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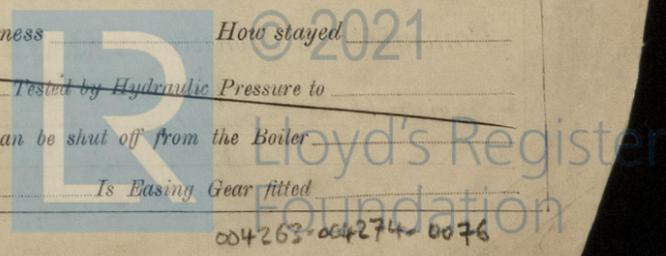
SAT. 12 FEB. 1921

Date of writing Report 8-2-1921 When handed in at Local Office 10-2-1921 Port of Sunderland  
 No. in Survey held at Sunderland Date, First Survey 31 Oct 1919 Last Survey 10 Feb 1921  
 Reg. Book. 80161 on the Steel S.S. LOUISIANA (Number of Visits 53 + 16) Tons { Gross 4494 Net 2464  
 Master J. Indresen Built at Middlesborough By whom built Furness Shipbuilding Co. Ltd (N° 20) when built 1921  
 Engines made at Sunderland By whom made Messrs Richardson Westforth & Co. Ltd (N° 215) when made 1921  
 Boilers made at do. By whom made do. when made 1921  
 Registered Horse Power  Owners Actus Norge. Toraxio Gulf Union Port belonging to Ynkeroy  
 Nom. Horse Power as per Section 28 538 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 26, 43, 73 Length of Stroke 48 Revs. per minute 70 Dia. of Screw shaft as per rule 14.4 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 5-2 1/4  
 Dia. of Tunnel shaft as per rule 13.06 Dia. of Crank shaft journals as per rule 13.7 Dia. of Crank pin 14 1/2 Size of Crank webs 27 1/2 x 9 Dia. of thrust shaft under collars 14 1/4 Dia. of screw 14-3 Pitch of Screw 18-0 No. of Blades 4 State whether moveable No Total surface 95 sq ft  
 No. of Feed pumps 2 Diameter of ditto 4 1/2 Stroke 24 Can one be overhauled while the other is at work Yes  
 No. of Bilge pumps 2 Diameter of ditto 4 1/2 Stroke 24 Can one be overhauled while the other is at work Yes  
 No. of Donkey Engines 2 Sizes of Pumps 8 x 5 1/2 x 8; 9 x 11 x 10 No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room 4 @ 3 1/2 In Holds, &c. 2 of 3 1/2" in each hold and 1 of 2 1/2" in Tunnel well.  
 No. of Bilge Injections 1 sizes 8" Connected to condenser, or to circulating pump C.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 ✓  
 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 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 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 Upper platform

**BOILERS, &c.**—(Letter for record S) Manufacturers of Steel John Spencer & Sons, Ltd.  
 Total Heating Surface of Boilers 8166 sq ft Is Forced Draft fitted Yes No. and Description of Boilers Three S.E. cylindrical multitubular  
 Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 27-8-20 No. of Certificate 3710  
 Can each boiler be worked separately Yes Area of fire grate in each boiler 64 sq ft No. and Description of Safety Valves to each boiler Two; spring loaded Area of each valve 12.57 sq in Pressure to which they are adjusted 185 Are they fitted with easing gear Yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork 1-6 Mean dia. of boilers 15-9 Length 12-0 Material of shell plates S  
 Thickness 1 1/2 Range of tensile strength 28.75 to 32.75 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams T.R.  
 long. seams DBS, T.R. Diameter of rivet holes in long. seams 1 1/2 Pitch of rivets 8 3/4 Lap of plates or width of butt straps 1-6 1/4  
 Per centages of strength of longitudinal joint rivets 85.6 Working pressure of shell by rules 188.7 Size of manhole in shell 13 x 16 1/2  
 Size of compensating ring 2-5 x 2-6 1/2 No. and Description of Furnaces in each boiler Howe Dayton Material S Outside diameter 4-1 3/4  
 Length of plain part top ✓ Thickness of plates crown 21 Description of longitudinal joint weld No. of strengthening rings ✓  
 bottom 32 Working pressure of furnace by the rules 215 Combustion chamber plates: Material S Thickness: Sides 19 Back 19 Top 19 Bottom 25  
 Pitch of stays to ditto: Sides 8 1/4 x 7 1/2 Back 8 3/8 x 8 Top 8 3/4 x 7 1/2 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 181.2  
 Material of stays S Area at smallest part 1.73 sq in Area supported by each stay 67 sq in Working pressure by rules 206 End plates in steam space:  
 Material S Thickness 1 1/8 Pitch of stays 16 x 19 1/8 How are stays secured D.N. + W. Working pressure by rules 184.1 Material of stays S  
 Area at smallest part 6.1 sq in Area supported by each stay 318 sq in Working pressure by rules 200 Material of Front plates at bottom S  
 Thickness 7/8 Material of Lower back plate S Thickness 13/16 Greatest pitch of stays 13 1/2 x 8 Working pressure of plate by rules 185.5  
 Diameter of tubes 2 1/2 Pitch of tubes 33 x 3 11/16 Material of tube plates S Thickness: Front 15/16 Back 3/4 Mean pitch of stays 9 5/16  
 Pitch across wide water spaces 13 1/2 Working pressures by rules 185 Girders to Chamber tops: Material S Depth and thickness of girder at centre 9 x 1 1/2 Length as per rule 2-8 1/4 Distance apart 8 3/4 Number and pitch of stays in each 3 @ 7 1/2  
 Working pressure by rules 185 Steam dome: description of joint to shell ✓ % of strength of joint ✓

**SUPERHEATER.** Type \_\_\_\_\_ 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 \_\_\_\_\_



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 & nuts; two bearing bolts & nuts; one set of coupling bolts & nuts; one set of feed & bilge pump valves; bolts, nuts, & iron of various sizes; one propeller shaft & one propeller.

The foregoing is a correct description, FOR RICHARDSONS, WESTGARTH & CO., L.

Richard St. Russell

Manufacturer.

Dates of Survey while building: During progress of work in shops -- } at Sunderland 31 Oct 1919 to 10 Feb 1921 - 55 visits; During erection on board vessel --- } at Middlesbrough & New to W. Beaches 16 visits; Total No. of visits: Is the approved plan of main boiler forwarded herewith Yes

Dates of Examination of principal parts: Cylinders 10-8-20 Slides 16-8-20 Covers 10-8-20 Pistons 10-8-20 Rods 9-7-20 Connecting rods 12-4-20 Crank shaft 17-3-20 Thrust shaft 2-7-20 Tunnel shafts 7-12-20 Screw shaft 20-4-20 Propeller 5-10-20 Stern tube 19-11-20 Steam pipes tested 8-9-20, 13-7-20, 13-1-21 Engine and boiler seatings 19-11-20 Engines holding down bolts 11-1-21 Completion of pumping arrangements 16-3-21 Boilers fixed 22-12-20 Engines tried under steam 26-1-21 Completion of fitting sea connections 8-10-20 Stern tube 13-12-20 Screw shaft and propeller 13-12-20 Main boiler safety valves adjusted 26-1-21 Thickness of adjusting washers P. boiler - P. 5/16, S. 3/8; C. boiler - P. 7/32, S. 7/32; S. boiler - P. 5/16

Material of Crank shaft Steel Identification Mark on Do. 6157 A.B. Material of Thrust shaft Steel Identification Mark on Do. No. 2157 E. Material of Tunnel shafts Iron Identification Marks on Do. 6024 A.B. Material of Screw shafts Iron Identification Marks on Do. No. 6146 A. Material of Steam Pipes L.W. 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. Yes Have the requirements of Section 49 of the Rules been complied with Yes, as approved. Is this machinery duplicate of a previous case Yes If so, state name of vessel S.S. Delaware

General Remarks (State quality of workmanship, opinions as to class, &c.) The Machinery has been built and installed under special survey. The materials and workmanship are good. The vessel has returned to the Builders' yard for completion. To complete the machinery survey, the hold pumping connections, and the electric light installation to be examined, Bilge direct suction to be fitted from donkey. Upon completion of survey this vessel's machinery is eligible in my opinion for classification and the record LMC with date.

Pumping arrangement & electric light installation satisfactorily completed 3.21

SUNDERLAND.

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

MACHINERY DEPT. WRITTEN 14/4/21

The amount of Entry Fee ... £ 6 : - : When applied for, Special ... £ 101 : 18 : 11 FEB 1921 Donkey Boiler Fee ... £ : : When received, Travelling Expenses (if any) £ : : 23/3/21

Ed. W. Putter & Co. Engineer Surveyors to Lloyd's Register of Shipping.

Committee's Minute FRI APR 15 1921

Assigned + LMC 3.21 Used for oil fuel 3.21 F.P. above 150° F. F.D. C.L.

