

REPORT ON MACHINERY.

REC'D NEW YORK

April 21 1917

Received at London Office

MAY 14 1917

Date of writing Report April 21 1917 When handed in at Local Office April 21 1917 Port of Newport News Va
 No. in Survey held at Newport News Va Date, First Survey May 4 1916 Last Survey April 17 1917
 Reg. Book. (NEW) on the STEEL S.S. "DELTA" (Number of Visits 59 Gross 5288 Tons Net 3937)
 Master N.A. NELSON Built at Newport News By whom built Newport News S.S. Co When built 1914
 Engines made at Newport News By whom made Newport News S.S. Co when made 1914
 Boilers made at Newport News By whom made Newport News S.S. Co when made 1917
 Registered Horse Power 471 Owners MARION S.S. LINES. Port belonging to NEW YORK
 Nom. Horse Power as per Section 28 471 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 24 1/2 4 1/2 7 1/2 Length of Stroke 48 Revs. per minute 70 Dia. of Screw shaft 14 1/8 Material of screw shaft OH.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 in 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 liners are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 60"
 Dia. of Tunnel shaft 13.9 Dia. of Crank shaft journals 13.5 Dia. of Crank pin 14 3/8 Size of Crank webs 9 1/2 Dia. of thrust shaft under collars 14 Dia. of screw 16 9/16 Pitch of Screw 16 9/16 No. of Blades 4 State whether moveable No Total surface 92.3 sq ft
 No. of Feed pumps 2 Diameter of ditto 4" Stroke 21" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 5" Stroke 21" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 2 Sizes of Pumps 10x12x12 - 9x6x10 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room Two 3 1/2" Two 3 1/2" In Holds, &c. No 1 - Two 3 1/2" No 2 - Two 3 1/2"
No 3 - Two 3 1/2" No 4 - Two 3 1/2"
 No. of Bilge Injections 1 sizes 9" Connected to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes
 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 Valves
 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 Yes
 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 Yes
 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
 Dates of examination of completion of fitting of Sea Connections 26.2.17 of Stern Tube 26.2.17 Screw shaft and Propeller 7.4.17
 Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from UPPER DECK.

BOILERS, &c.—(Letter for record S) Manufacturers of Steel LORAIN'S & S CO + WORTH BROS.
 Total Heating Surface of Boilers 6564 Is Forced Draft fitted Yes No. and Description of Boilers 2 S.E. Scotch
 Working Pressure 190 lb. Tested by hydraulic pressure to 285 lb. Date of test 14.9.17 No. of Certificate 157-158
 Can each boiler be worked separately Yes Area of fire grate in each boiler OIL FUEL No. and Description of Safety Valves to each boiler Two 3 1/2" Area of each valve 9.62 Pressure to which they are adjusted 190 Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 1'6" Mean dia. of boilers 16'6" Length 11'6" Material of shell plates S
 Thickness 1 3/32 Range of tensile strength 28-32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams J.R.L.
 long. seams J.B.S.T.R. Diameter of rivet holes in long. seams 1 9/16 Pitch of rivets 8 3/4 Lap of plates or width of butt straps 23"
 Per centages of strength of longitudinal joint rivets 103.6 Working pressure of shell by rules 203 Size of manhole in shell 16x12
 Size of compensating ring 39x35 No. and Description of Furnaces in each boiler 4 MORION Material S Outside diameter 47 3/16
 Length of plain part top 19 1/2 Thickness of plates bottom 19 1/2 Description of longitudinal joint WELDED No. of strengthening rings 1
 Working pressure of furnace by the rules 200 Combustion chamber plates: Material S Thickness: Sides 7/8 Back 7/8 Top 7/8 - 9/16 Bottom 7/8
 Pitch of stays to ditto: Sides 7x7 Back 7 1/4 x 7 Top 8x7 If stays are fitted with nuts or riveted heads NUTS Working pressure by rules 197
 Material of stays S Diameter at smallest part 1.37 Area supported by each stay 56 Working pressure by rules 210 End plates in steam space:
 Material S Thickness 1 1/8 Pitch of stays 16x16 How are stays secured J.N. Working pressure by rules 197.5 Material of stays S
 Diameter at smallest part 2 3/4 Area supported by each stay 256 Working pressure by rules 241 Material of Front plates at bottom S
 Thickness 3/4 Material of Lower back plate S Thickness 3/4 Greatest pitch of stays 12 1/2 Working pressure of plate by rules 280
 Diameter of tubes 2 3/4 Pitch of tubes 4x3 3/4 Material of tube plates S Thickness: Front 3/4 Back 3/4 Mean pitch of stays 12 1/2
 Pitch across wide water spaces 12 3/4 Working pressures by rules 279 Girders to Chamber tops: Material S Depth and thickness of girder at centre Two 10x14 Length as per rule 30 1/2 Distance apart 8 1/2 Number and pitch of stays in each Two - 7"
 Working pressure by rules 210 Superheater or Steam chest; how connected to boiler Yes Can the superheater be shut off and the boiler worked separately Yes
 Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness
 If stiffened with rings Distance between rings Working pressure by rules End plates: Thickness How stayed
 Working pressure of end plates Area of safety valves to superheater Are they fitted with easing gear

IS A DONKEY BOILER FITTED? YES.

If so, is a report now forwarded? YES.

SPARE GEAR. State the articles supplied: - Inlet shaft, eccentric straps, valve rods, Top and bottom end brasses and bolts - Main bearing bolts, 6 Coupling bolts, Piston rings - Head, helix and air pump valves, Condenser and boiler tubes - Nuts, bolts and iron of various sizes -

The foregoing is a correct description,

Newport News Shipbuilding & Dry Dock Co.,

By

L. Wood Manufacturer.
Assistant to the President.

Dates of Survey while building: During progress of work in shops - M. 4. 29. J. 10. 20. 28. J. 5. 11. 12. 18. 21. A. 7. 14. 16. 22. S. 13. 14. 26. 29. O. 9. 23. 27. N. 16. D. 5. 14. 18. 21. 28. J. 4. 15. 16. 18. 26. 29. F. 1. 2. 5. 13. 14. 21. 22. 26. 27. 28. M. 2. 3. 15. During erection on board vessel - M. 17. 20. 22. 24. 26. 29. A. 2. 6. 7. 11. 12. 16. 17. Total No. of visits 59

Is the approved plan of main boiler forwarded herewith YES.
" " " donkey " " " YES.

Dates of Examination of principal parts - Cylinders O. 9. N. 16. Slides F. 1. 21. Covers F. 21. 28. Pistons O. 27. F. 21. Rods F. 21. 28. Connecting rods M. F. 21. Crank shaft J. 29. Thrust shaft M. 3. Tunnel shafts F. 5. N. 3. F. 27. Screw shaft F. 28. Propeller F. 27. Stern tube D. 21. Steam pipes tested M. 28. 29. Engine and boiler seatings D. 21. Engines holding down bolts M. 20. Completion of pumping arrangements A. 6-16. Boilers fixed A. 12. Engines tried under steam A. 12. Main boiler safety valves adjusted A. 12. Thickness of adjusting washers LOCK NUTS.

Material of Crank shaft O.H.S. Identification Mark on Do. M. 29. 1. 17. Material of Thrust shaft O.H.S. Identification Mark on Do. M. 3. 3. 17. Material of Tunnel shafts O.H.S. Identification Marks on Do. M. 27. 2. 17. Material of Screw shafts O.H.S. Identification Marks on Do. 28. 2. 17. Material of Steam Pipes STEEL + COPPER. Test pressure S. 600 lb. Cop. 400 lb.

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.
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.) The machinery has been built under special survey in accordance with the approved plans and Rules for the intended record 3/4 M.C. The workmanship and materials are good and the engines have been tested under steam and found to work well, rendering the vessel eligible in my opinion to have the records of L.M.C. 4. 17 - MB 190 lb IB 120 lb "Fitted for oil fuel 5/8" above 150°F." The furnaces of the main boilers burn oil fuel - The oil is carried in the double bottom and side fuel bunker tank and is pumped to the furnaces by special fuel pump in the stowhold. The oil is stored by mechanical burners - The pumping arrangements are separate from other systems and the requirements of Sec 49 are complied with -

The amount of Entry Fee ... \$15.00 : When applied for, 21. 4. 1917
Special ... \$218.00 :
Donkey Boiler Fee ... £ :
Travelling Expenses (if any) £ :
When received, 26. 4. 17

John A. Braxden
Engineer-Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute New York APR 26 1917
Assigned + Lamb 4, 17 Fitted for oil fuel 4. 17
Elec. Light 5/8" above 150°F.
MACHINERY CERTIFICATE
WRITTEN 14-6-17

