

REPORT ON MACHINERY

NEWCASTLE-ON-TYNE. No. 65937
No. 14845

SAT. MAR. 14. 1914

Received at London Office

of writing Report *11th March 1914* When handed in at Local Office *12/3/14* Port of *West Hartlepool*
 in Survey held at *West Hartlepool* Date, First Survey *15th Oct. 1913* Last Survey *7th March 1914*
 on the *Steel Screw Steamer MAEDALA* (Number of Visits *52*)
 Tons { Gross *3489*
 Net *2214*
 Built at *Newcastle* By whom built *Northumberland Ship Co. Ltd (16216)* When built *1914*
 Lines made at *Hartlepool* By whom made *Richardsons, Westgate & Co. Ltd.* when made *1914*
 Repairs made at *Hartlepool* By whom made *Richardsons, Westgate & Co. Ltd.* when made *1914*
 Registered Horse Power *365* Owners *East Asiatic Co.* Port belonging to *Copenhagen*
 Is Refrigerating Machinery fitted for cargo purposes *no* Is Electric Light fitted *yes*

MAINES, &c.—Description of Engines *Triple Expansion (inverted)* No. of Cylinders *Three* No. of Cranks *Three*
 of Cylinders *25-41-69* Length of Stroke *48* Revs. per minute *60* Dia. of Screw shaft *as per rule 14.31* Material of screw shaft *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
 Is the propeller boss *yes* If the liner is in more than one length are the joints burned *no* 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
 shafts are fitted, is the shaft lapped or protected between the liners *no* Length of stern bush *4-9 1/2*
 Dia. of Tunnel shaft *as per rule 12.41* Dia. of Crank shaft journals *as per rule 13.34* Dia. of Crank pin *14* Size of Crank webs *8 1/2 x 20 1/8* Dia. of thrust shaft under
 cranks *14 1/2* Dia. of screw *1 1/2-6* Pitch of Screw *1 1/2-3* No. of Blades *four* State whether moveable *no* Total surface *95 sq ft*
 of Feed pumps *two* Diameter of ditto *3 1/4* Stroke *24* Can one be overhauled while the other is at work *yes*
 of Bilge pumps *two* Diameter of ditto *3 3/4* Stroke *24* Can one be overhauled while the other is at work *yes*
 of Donkey Engines *three* Sizes of Pumps *10 1/2 x 6 Ball (complex), 6 x 6 (simple), 4 x 6 (simple)* No. and size of Suctions connected to both Bilge and Donkey pumps
 Engine Room *four 3 1/2, one 2 1/2, one 2 1/2, one 2 1/2* In Holds, &c. *two 3 1/2 in each hold*
 of Bilge Injections *one size 6* Connected to condenser, or to circulating pump *no* Is a separate Donkey Suction fitted in Engine room of size *yes 3 1/2 dia*
 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 *no*
 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*
 are the pipes carried through the bunkers *no* How are they protected *no*
 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 *19/12/13* of Stern Tube *19/2/14* Screw shaft and Propeller *20/2/14*
 is the Screw Shaft Tunnel watertight *yes* Is it fitted with a watertight door *yes* worked from *upper platform*

BOILERS, &c.—(Letter for record *5*) Manufacturers of Steel *Messrs. Thyssen & Co. & Messrs. Marshall & Co. Ltd.*
 Heating Surface of Boilers *5400 sq ft* Is Forced Draft fitted *no* No. and Description of Boilers *Three single ended, Cyl. & Mult.*
 Working Pressure *180 lbs* Tested by hydraulic pressure to *360 lbs* Date of test *2/2/14* No. of Certificate *3353*
 can each boiler be worked separately *yes* Area of fire grate in each boiler *46.9 sq ft* No. and Description of Safety Valves to
 each boiler *no, direct spring* Area of each valve *5.94 sq in* Pressure to which they are adjusted *185 lbs* Are they fitted with easing gear *yes*
 least distance between boilers or uptakes and bunkers or woodwork *3-3* Mean dia. of boilers *14-0* Length *10-9* Material of shell plates *steel*
 thickness *1 1/8* Range of tensile strength *28 1/2 to 32 tons* Are the shell plates welded or flanged *no* Descrip. of riveting: cir. seams *Lat & R*
 seams *DRS-TR* Diameter of rivet holes in long. seams *1 5/32* Pitch of rivets *8* Lap of plates or width of butt straps *1 1/4*
 percentages of strength of longitudinal joint
 rivets *86.7%* Working pressure of shell by rules *180 lbs* Size of manhole in shell *end 12 x 16*
 plate *85.65%*
 of compensating ring *flanged in* No. and Description of Furnaces in each boiler *Three, Expansion* Material *steel* Outside diameter *43 3/4*
 thickness of plain part top *1 1/8* Thickness of plates crown *1 1/8* Description of longitudinal joint *weld* No. of strengthening rings *—*
 bottom *1 1/8* bottom *1 1/8*
 working pressure of furnace by the rules *184 lbs* Combustion chamber plates: Material *steel* Thickness: Sides *9/16* Back *9/16* Top *9/16* Bottom *7/8*
 of stays to ditto: Sides *7/8 x 8* Back *7/8 x 8 1/2* Top *7/8 x 8* If stays are fitted with nuts or riveted heads *nuts* Working pressure by rules *180.6 lbs*
 material of stays *steel* Diameter at smallest part *1 3/8* Area supported by each stay *8 x 4 1/2* Working pressure by rules *198 lbs* End plates in steam space:
 material *steel* Thickness *B 1/32* Pitch of stays *16 x 18 1/8* How are stays secured *DN* Working pressure by rules *182 lbs* Material of stays *steel*
 diameter at smallest part *2.63* Area supported by each stay *16 x 18 1/8* Working pressure by rules *180 lbs* Material of Front plates at bottom *steel*
 thickness *1 5/16* Material of Lower back plate *steel* Thickness *1 3/16* Greatest pitch of stays *13 x 8 1/2* Working pressure of plate by rules *189 lbs*
 diameter of tubes *3 1/4* Pitch of tubes *4 1/2 x 4 3/8* Material of tube plates *steel* Thickness: Front *1 5/16* Back *1 3/16* Mean pitch of stays *11 1/8*
 across wide water spaces *14 1/8* Working pressures by rules *180.5 lbs* Girders to Chamber tops: Material *steel* Depth and
 thickness of girder at centre *7 1/2 x 1 3/4* Length as per rule *29 1/2* Distance apart *8* Number and pitch of stays in each *three 1 1/2*
 working pressure by rules *187 lbs* Superheater or Steam chest; how connected to boiler *—* Can the superheater be shut off and the boiler worked
 separately *—* Diameter *—* Length *—* Thickness of shell plates *—* Material *—* Description of longitudinal joint *—* Diam. of rivet
 Pitch of rivets *—* Working pressure of shell by rules *—* Diameter of flue *—* Material of flue plates *—* Thickness *—*
 strengthened 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? *no*

If so, is a report now forwarded? —

SPARE GEAR. State the articles supplied:—

Two each, top End, Bottom End & Main Bearing Bolts & nuts, one set of coupling Polty nuts, one set of feed pump valves, one set of ridge pump valves, one set of top End frames, one complete bottom End hub, three main & three donkey cheek valves, one propeller & one propeller shaft. Assorted iron bolts 10.

The foregoing is a correct description,
FOR RICHARDSONS, WESTGARTH & Co. LIMITED

L. P. Murray ASSISTANT GENERAL MANAGER.

Manufacturer.

Dates of Survey while building { During progress of work in shops -- 1913. Oct 15. 22. 23. 27. 28. 30. 31. Nov 4. 5. 6. 17. 28. Dec 2. 8. 15. 29. 31. 1914. Jan 5. 13. 14. 15.
During erection on board vessel --- 16. 19. 20. 21. 22. 23. 26. 28. 29. 30. Feb. 2. 3. 4. 5. 6. 9. 10. 11. 12. 13. 19. 20. 23. 26. 27. 28. Mar 2. 4. 5. 8.
Total No. of visits 52. + 4

Is the approved plan of main boiler forwarded herewith *yes*

" " " donkey " " " —

Dates of Examination of principal parts—Cylinders 31/12/13 Slides 19/1/14 Covers 9/2/14 Pistons 14/1/14 Rods 4/1/14
Connecting rods 27/10/13 Crank shaft 7/1/13 Thrust shaft 9/2/14 Tunnel shafts 26/1/14 Screw shaft 3/2/14 Propeller 23/1/14
Stern tube 21/1/14 Steam pipes tested 27/2/14 Engine and boiler seatings 23/2/14 Engines holding down bolts 23/2/14
Completion of pumping arrangements 5/3/14 Boilers fixed 28/2/14 Engines tried under steam 5/3/14
Main boiler safety valves adjusted 5/3/14 Thickness of adjusting washers $\frac{11}{32}$ $\frac{5}{16}$ $\frac{11}{32}$ $\frac{11}{32}$ $\frac{3}{8}$ $\frac{11}{32}$

Material of Crank shaft *steel* Identification Mark on Do. (5471) Material of Thrust shaft *steel* Identification Mark on Do. (5471)
Material of Tunnel shafts *steel* Identification Marks on Do. (5471) Material of Screw shafts *steel* Identification Marks on Do. (5471)
Material of Steam Pipes *wrought iron lap welded 4 1/2 bore 3/8 thick* Test pressure 600 lb

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 *S.S. Delagoa (Botanich. 185)*

General Remarks (State quality of workmanship, opinions as to class, &c.)

Evaporator Body tested to 50 lbs and steam coils to 400 lbs Hydraulic pressure, marked

The Machinery of this Vessel has been built under special survey the material & workmanship sound & good. The Boilers and steam pipes have been tested by Hydraulic pressure in accordance with the Rules, the machinery worked satisfactorily at the morning & the safety valves have been adjusted under steam to their working pressure & Easing gear fitted.

This vessel is Eligible in our opinion to have the Notation LMC 4/14 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. + LMC 4. 14.

JWR
JWR
28/4/14

The amount of Entry Fee ... £ 3 : 0 :
Special ... £ 38 : 5 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :
When applied for, 13/3/1914
When received, after letter has been received 16.4.1914

A. R. & C. Cooper
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute TUE. APR. 23. 1914
Assigned + LMC 4, 14

MACHINERY CERTIFICATE WRITTEN

