

# REPORT ON MACHINERY.

No. 2342

Received at London Office

MUN. 31 JAN 1910

Date of writing Report 27. 1. 1910 When handed in at Local Office 27. 1. 1910 Port of Trieste  
 Date, First Survey 1. 9. 09 Last Survey 24. 1. 1910  
 in Survey held at Trieste (Number of Visits 23)  
 on the S. S. "Gastein" Lloyd Austriaco N<sup>o</sup> 119 Tons { Gross 3819  
 Net 2357  
 Master N. Chersich Built at Trieste By whom built Lloyd Austriaco When built 1910-1  
 Engines made at Trieste By whom made Lloyd Austriaco when made 1910-1  
 Boilers made at Trieste By whom made Lloyd Austriaco when made 1910-1  
 Registered Horse Power (390) Owners Lloyd Austriaco Port belonging to Trieste  
 Nom. Horse Power as per Section 28 390 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 23 1/2" x 37" x 66" Length of Stroke 48" Revs. per minute 85 Dia. of Screw shaft 13 1/2" Material of Iron  
 as per rule 13 1/2" as fitted 14 1/2" screw shaft  
 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  
 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 fits whole length  
 liners are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 4' 10"  
 Dia. of Tunnel shaft 12 1/2" as per rule 12 1/2" Dia. of Crank shaft journals 13 1/2" as per rule 13 1/2" Dia. of Crank pin 13 5/8" Size of Crank webs 8 7/8" Dia. of thrust shaft under  
 as fitted 12 1/2" as fitted 13 1/2"  
 No. of Blades 4 State whether moveable Yes Total surface 75.4 sq ft  
 No. of Feed pumps 2 Diameter of ditto 3 3/4" Stroke 24" Can one be overhauled while the other is at work Yes  
 No. of Bilge pumps 2 Diameter of ditto 4" Stroke 24" Can one be overhauled while the other is at work Yes  
 No. of Donkey Engines One Sizes of Pumps 8" x 8" x 8" No. and size of Suctions connected to both Bilge and Donkey pumps  
 Engine Room 2 of 3 1/2" diam. & 2 of 3" diam. In Holds, &c. 10 of 3 1/2" diam.  
N<sup>o</sup> 1-2, N<sup>o</sup> 2-2, N<sup>o</sup> 3-2, N<sup>o</sup> 4-2, N<sup>o</sup> 5-2, After peak 1, Forepeak 1, Tunnel well 1.  
 No. of Bilge Injections 1 sizes 12" Connected to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size 2 of 3"  
 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 Yes  
 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 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 Tank & Bilges How are they protected Thick wood 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  
 Dates of examination of completion of fitting of Sea Connections 17. 11. 09 of Stern Tube 17. 11. 09 Screw shaft and Propeller 11. 1. 10  
 Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Deck  
 BOILERS, &c.—(Letter for record R) Manufacturers of Steel D. Colville & Sons  
 Total Heating Surface of Boilers 5379 Is Forced Draft fitted Yes No. and Description of Boilers 2 Cylindr. Mults. Single end  
 Working Pressure 200 lbs Tested by hydraulic pressure to 400 lbs Date of test 14. 12. 09 No. of Certificate 111 & 112  
 Can each boiler be worked separately Yes Area of fire grate in each boiler 63.2 sq. ft No. and Description of Safety Valves to  
 each boiler 2 Spring loaded Area of each valve 11" Pressure to which they are adjusted 205 lbs Are they fitted with easing gear Yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork 20" Mean dia. of boilers 15 1/9" Length 11 1/9" Material of shell plates Steel  
 Thickness 1 3/8" Range of tensile strength 29 to 33 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams double above  
 long. seams D. B. Straps Diameter of rivet holes in long. seams 1 7/8" Pitch of rivets 9 1/2" & 4 3/4" Lap of plates or width of butt straps 21 3/4"  
 Per centages of strength of longitudinal joint rivets 92.4" Working pressure of shell by rules 206 lbs Size of manhole in shell 16" x 12"  
 plate 84.8"  
 Size of compensating ring McNeil No. and Description of Furnaces in each boiler 3 Daughton Material Steel Outside diameter 50 1/4"  
 Length of 8' 6 1/2" Thickness of plates 5/8" Description of longitudinal joint weld No. of strengthening rings none  
 Working pressure of furnace by the rules 200 lbs Combustion chamber plates: Material Steel Thickness: Sides 3/32" Back 3/32" Top 3/32" Bottom 1 1/8"  
 Pitch of stays to ditto: Sides 9" x 8" Back 8 7/8" & 8 1/4" Top 7 1/2" & 9" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 203 lbs  
 Material of stays Iron Diameter at smallest part 1 5/8" Area supported by each stay 73" Working pressure by rules 226 lbs End plates in steam space:  
 Material Steel Thickness 1 1/2" Pitch of stays 22" & 22 1/2" How are stays secured D. nuts & washers Working pressure by rules 207 lbs Material of stays steel  
 Diameter at smallest part 3 1/2" Area supported by each stay 487" Working pressure by rules 209 Material of Front plates at bottom Steel  
 Thickness 1" Material of Lower back plate Steel Thickness 1" Greatest pitch of stays 14" Working pressure of plate by rules 227 lbs  
 Diameter of tubes 2 1/2" Pitch of tubes 3 3/4" x 3 3/4" Material of tube plates Steel Thickness: Front 1" x 1 1/32" Back 3/4" Mean pitch of stays 7 1/2"  
 Pitch across wide water spaces 13 1/2" Working pressures by rules 224 lbs 300 lbs Girders to Chamber tops: Material Steel Depth and  
 thickness of girder at centre 10" x 1 1/4" Length as per rule 31.9" Distance apart 7 1/2" Number and pitch of stays in each 2:9"  
 Working pressure by rules 242 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  
 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 —

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# VERTICAL DONKEY BOILER—

Manufacturers of Steel

No.	Description			When made	Where fixed
Made at	By whom made				
Working pressure	tested by hydraulic pressure to	Date of test	No. of Certificate	Fire grate area	Description of
Valves	No. of Safety Valves	Area of each	Pressure to which they are adjusted	Date of adjustment	
If fitted with easing gear	If steam from main boilers can enter the donkey boiler			Dia. of donkey boiler	Length
Material of shell plates	Thickness	Range of tensile strength	Descrip. of riveting long. seams		
Dia. of rivet holes	Whether punched or drilled	Pitch of rivets	Lap of plating	Per centage of strength of joint	Rivets Plates
Working pressure of shell by rules	Thickness of shell crown plates	Radius of do.	No. of stays to do.	Dia. of stays	
Diameter of furnace Top	Bottom	Length of furnace	Thickness of furnace plates	Description of joint	
Working pressure of furnace by rules	Thickness of furnace crown plates	Radius of do.	Stayed by		
Diameter of uptake	Thickness of uptake plates	Thickness of water tubes	Dates of survey		

SPARE GEAR. State the articles supplied:— 1 Propeller shaft, 2 bronze propeller blades, 1 set of coupler bolts, set propeller studs, 1 slide valve rod, 2 eccentric straps, 2 main bearing bolts, 2 cross bolts, 2 crank pin bolts, 1 set crosshead brasses, also crank brasses, 1 set bilge pump valve, 1 set air pump valves, set feed pump valves, condenser tubes, iron, bolts & nuts etc:—

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building	During progress of work in shops—	Sept. 1. 9. Oct. 19. 21. 25. 27. 28. Nov. 9. 10. 17. 18. 24. Dec 9
	During erection on board vessel—	Dec. 14. 23. 28. 29. Jan 1910. 3. 7. 11. 14. 17. 20.
	Total No. of visits	23

Is the approved plan of main boiler forwarded herewith ☒ No  
Approved plans kept to deal with sister vessels ☒ No  
" " " donkey " " " " ☒ No

Dates of Examination of principal parts—Cylinders	1. 9. 09	Slides	21. 10. 09	Covers	21. 10. 09	Pistons	24. 11. 09	Rods	17. 11. 09
Connecting rods	17. 11. 09	Crank shaft	25. 6. 09	Thrust shaft	28. 12. 09	Tunnel shafts	28. 12. 09	Screw shaft	17. 11. 09
Stern tube	10. 11. 09	Steam pipes tested	23. 12. 09	Engine and boiler seatings	28. 12. 09	Engines holding down bolts	3. 1. 10		
Completion of pumping arrangements	11. 1. 10	Boilers fixed	29. 12. 09	Engines tried under steam	17. 1. 10				
Main boiler safety valves adjusted	17. 1. 10	Thickness of adjusting washers	3/8" + 1/4"	3/8" + 1/4"	3/8" + 1/4"				
Material of Crank shaft	Steel	Identification Mark on Do.	3914 MK	Material of Thrust shaft	Steel	Identification Mark on Do.	3915		
Material of Tunnel shafts	Steel	Identification Marks on Do.	3916-7. 8. 9. 10 MK	Material of Screw shafts	Iron	Identification Marks on Do.	3911		
Material of Steam Pipes	Steel	Test pressure	600 lbs. per square inch						

General Remarks (State quality of workmanship, opinions as to class, &c.) The machinery and boilers of this vessel have been constructed under Special Survey in accordance with the rules and approved plans, the material and workmanship throughout found to be of good description

The boilers were made by Caird & Co. Lim. Greenock and built up and completed at the Lloyds Arsenal, and tested by hydraulic pressure to 400 lbs. and found tight with no sign of weakness.

It is submitted that the machinery of this vessel is eligible for record of L.M.C. 1.10 noted in the Register Book

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 1.10

F.D.

442D  
31.1.10

The amount of Entry Fee	2. 12. 72	When applied for,	28. 1. 1910
Special	2. 12. 950	When received,	5. 2. 1910
Donkey Boiler Fee	2. 12. 50		
Travelling Expenses (if any) £			

Committee's Minute

Assigned

TUES. 1 FEB 1910

+ L.M.C. 1.10

Charles R Hughes  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

FRI. 27 MAY 1910

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