

REPORT ON MACHINERY.

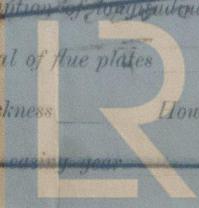
MUN. AUG 26 1901

No. in Survey held at		Port of Trieste	Received at London Office
Reg. Book.		Date, first Survey 19 July 1901	Last Survey 21 Aug 1901
on the French Steamer, "Australis"		(Number of Visits)	
Master C. Fellner		Gross 2585	Tons 4829.
Engines made at Trieste		Net 4829.	When built 1901.5
Boilers made at Wallsend			when made 1900.
Registered Horse Power		Owners Lloyd Australis	Port belonging to Trieste.
Nom. Hrs. Power as per Section 28		Is Refrigerating Machinery fitted Yes	Is Electric Light fitted Yes.

ENGINES, &c.—Description of Engines		Triple expansion	No. of Cylinders 3	No. of Cranks 3
Dia. of Cylinders	28 ¹ / ₂	Length of Stroke 54	Revs. per minute. 80	Dia. of Screw shaft as per rule 16 ¹ / ₂
Dia. of Tunnel shaft	14 ³ / ₄	as per rule 14 ³ / ₄	as fitted 17 ¹ / ₂	Lgh. of stern bush 66 ¹ / ₂
Dia. of Crank shaft journals	15 ¹ / ₂	Dia. of Crank pin 16 ¹ / ₂	Dia. of Crank webs 34 ¹ / ₂	Size of Crank webs 34 ¹ / ₂
Collars 15 ¹ / ₂	Dia. of screw 19 ¹ / ₂	as fitted 16 ¹ / ₂	Dia. of thrust shaft under 16 ¹ / ₂	
No. of blades 4	Pitch of screw 19 ¹ / ₂	No. of blades 4	State whether moveable yes	Total surface 104 ⁰
No. of Feed pumps 2	Diameter of ditto 4 ¹ / ₂	Stroke 30 ¹ / ₂	Can one be overhauled while the other is at work yes	
No. of Bilge pumps 2	Diameter of ditto 4 ¹ / ₂	Stroke 30 ¹ / ₂	Can one be overhauled while the other is at work yes	
No. of Donkey Engines 8000 ⁰	Sizes of Pumps see remarks re water pipes	No. and size of suction connected to both Bilge and Donkey pumps		
Boiler	2 section of 4 ¹ / ₂ diameter to auxiliary pump in holds, &c.	11 section to bilges of 4 ¹ / ₂ & 11 of 5 ¹ / ₂ to diesel busters.		
No. of bilge injections 1. sizes 14 ¹ / ₂	Connected to circulating pump	yes Is a separate donkey suction fitted in Engine room of size	yes 5 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 Valves only.			
Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates yes	Are the discharge pipes above 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			
That pipes are carried through the bunkers	None	How are they protected	Passed through plate thickness.	
Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times				
Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges				
Then were stern tube, propeller, screw shaft, and all connections examined in dry dock		Is the screw shaft tunnel watertight	yes	
it fitted with a watertight door yes	worked from main platform.			

BOILERS, &c.—		(Letter for record)	Total Heating Surface of Boilers 2690 ⁰	Is forced draft fitted yes
6. and Description of Boilers	3 Single ended multi	Working Pressure 200 lbs	Tested by hydraulic pressure to 400 lbs	
site of test 21. II 90	Can each boiler be worked separately yes	Area of fire grate in each boiler 59.062 ⁰	No. and Description of safety valves to	
ch boiler 2 Spring loaded	Area of each valve 9.621 ⁰	Pressure to which they are adjusted 205 lbs	Are they fitted with easing gear yes	
allest distance between boilers or uptakes and bunkers or woodwork 3 ¹ / ₂ ft	No 2 Mean dia. of boilers 15 ¹ / ₂ ft	Length 12 ¹ / ₂ ft Material of shell plates Steel		
ickness 1 ¹ / ₃₂ Range of tensile strength 29-33	Are they welded or flanged no	Descrip. of riveting: cir. seams T.R. lap long. seams A.B.S. T.R.		
meter of rivet holes in long. seams 1 ¹ / ₂	Pitch of rivets 2 ¹ / ₂ ft. 904 R.B.	Length of plates width of butt straps 22 ¹ / ₂ ft		
centages of strength of longitudinal joint plate 84.2	Working pressure of shell by rules 213 lbs	Size of manhole in shell 16 ¹ / ₂ ft		
of compensating ring 84.1 ¹ / ₃₂	No. and Description of Furnaces in each boiler 3 Deighton	Material Steel Outside diameter 45 ¹ / ₂		
length of plain part top 5 ft bottom 5 ft	Description of longitudinal joint welded	No. of strengthening rings two		
orking pressure of furnace by the rules 205 lbs	Combustion chamber plates: Material Steel Thickness Sides 3/8" Back 1/2" Top 1/4" Bottom 1/8"			
ch of stays to ditto: Sides 8 ¹ / ₈ " Back 8 ¹ / ₈ " Top 8 ¹ / ₈ " If stays are fitted with nuts or riveted heads	Area supported by each stay 644"	Working pressure by rules 221 lbs		
aterial of stays Steel Diameter at smallest part 1 ¹ / ₁₆ in Area supported by each stay 644"	Working pressure by rules 293 lbs	and plates in steam space:		
Steel Thickness 1 ¹ / ₃₂ Pitch of stays 16 ¹ / ₂ in How are stays secured D.N.-W.	Working pressure by rules 200 lbs	Material of stays Steel		
meter at smallest part 2 ¹ / ₃₂ Area supported by each stay 248	Working pressure by rules 205 lbs	Material of Front plates at bottom Steel		
ickness 1 ¹ / ₁₆ Material of Lower back plate Steel Thickness 15/16" Greatest pitch of stays 13 ¹ / ₂ " Working pressure of plate by rules 281 lbs				
meter of tubes 2 ¹ / ₂ Pitch of tubes 3 ¹ / ₂ ft 8 ¹ / ₃₂ Material of tube plates Steel Thickness Front 3/2" Back 3/4" Mean pitch of stays 2 ³¹ / ₆₄ "				
h across wide water spaces 10 ¹ / ₂ " Working pressures by rules 200 lbs	Girders to Chamber tops: Material Steel Depth and			
ness of girder at centre 11 ¹ / ₂ " 2 ¹ / ₂ " Length as per rule 34 ⁵ / ₈ " Distance apart 8"	Number and pitch of Stays in each 3-2 ⁵ / ₈ "			
king pressure by rules 209 lbs Superheater or Steam chest; how connected to boiler none Can the superheater be shut off and the boiler worked				
arately 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 Diam. of rivet				
stiffened with rings Distance between rings 10" Working pressure by rules End plates: Thickness How stayed				
king pressure of end plates Area of safety valves to superheater Are they fitted with easing gear				

W562-0102

Lloyd's Register
Foundation

DONKEY BOILER— No. 1 Description Single ended hull. 2 Donkey furnaces
 Made at Wallenius By whom made Wallenius Slipway Co. When made 1900 Where fixed On upper deck
 Working pressure 180 lbs tested by hydraulic pressure to 360 lbs No. of Certificate 12 Description of safety valves Spring loaded
 No. of safety valves 2 Area of each $5\frac{1}{4}$ Pressure to which they are adjusted 180 lbs fitted with easing gear yes If steam from main boilers can No. in Service
 enter the donkey boiler no Dia. of donkey boiler $11\frac{1}{2}$ " Length $10\frac{1}{2}$ " Material of shell plates Steel Thickness $\frac{33}{32}$ " Range of tensile strength Book.
 strength 28-32 Descrip. of riveting long. seams D.B.S. T.R. Dia. of rivet holes $1\frac{1}{8}$ " Whether punched or drilled drilled Pitch of rivets $2\frac{1}{2}$ "
 But straps Rivets 10.2 Thickness of shell plates $1\frac{1}{2}$ " Radius of stays to do. Pitch $16\frac{1}{2}$ " Stays to do. 1616 stater
 Lap of plates 17 $\frac{1}{2}$ " Per centage of strength of joint Plates 84 Thickness of furnace plates $\frac{1}{2}$ " Description of furnaces made
 Dia. of stays $2\frac{1}{32}$ " Diameter of furnace Top $40\frac{1}{2}$ " Bottom $27\frac{1}{2}$ " Length of furnace $6\frac{1}{2}$ " Thickness of furnace plates $\frac{1}{2}$ "
 joint welded Thickness of furnace plates $\frac{1}{2}$ " Stayed by steel stay $14\frac{1}{2}$ " pitch $2\frac{1}{2}$ " Working pressure of shell by rules 187 lbs
 Working pressure of furnace by rules 204 lbs. Diameter of tube $3\frac{1}{2}$ " Thickness of tube plates $\frac{1}{2}$ " Thickness of stay tubes $\frac{1}{2}$ "
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SPARE GEAR. State the articles supplied:— 1 Propeller shaft. 1 Crank shaft. 4 horse propeller blades. 2 connecting rods top and bottom bolts & nuts, 2 connecting rod bottom bolts & nuts, 1 set of coupling bolts & main bearing bolts, 1 set of feed & bilge pump valves, 1 set of piston springs for each piston, 1 pair of connecting rod braces, 1 pair of cross head braces, 1 set of link braces, 1 complete eccentric strap, 1 air pump rod, 1 HP + one L.P. valve spindle & dozen of Boiler tubes, 1 set of safety valve spring a good quantity of bolts & nuts.

The foregoing is a correct description,

Manufacturer.

Shawasaki

		1900. 19th July 6. 14. 23 Aug. 4. 12. 19. 26 Sep. 5. 9. 14. 22. 30 Oct. 2. 13. 21. 29 Nov.
During progress of work in shops		5. 13. 19. 23. Dec. 1901. 2. 15. 23. 30 Jan. 5. 13. 20. 28 Feb. 8. 15. 22. 29 March. 10. 12
During erection on board vessel		26. Apr. 22. 28 May 4. 11. 12. 24 June 5. 11. 19. 26 July 2. 7. 12. 20 August.
Total No. of visits		51.

Is the approved plan of main boiler forwarded herewith
donkey

General Remarks (State quality of workmanship, opinions as to class, &c.) The machinery & Boilers of this vessel have been constructed under special Survey and are of good material & in accordance with the rules of this Society. Special attention was given to the workmanship which is of a high class. Engine & Boilers have been duly fitted on board & satisfactory worked under steam. In my opinion it is eligible to have a copy of **LMC 5.01 FD** noted in the R Book.

All steel shafting (propeller shaft lined for the whole length of stern tube) forged at the steel works of Willows tested & examined before & when finished and all stamped at the fitter & crane shafts at masts.

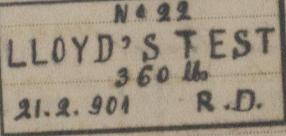
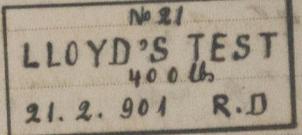
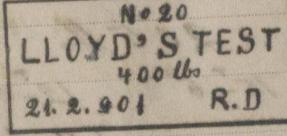
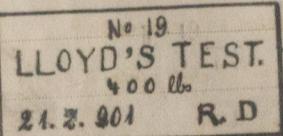
The Boilers are stamped as below.

Main P.S.

O.

S.S.

Donkey Boilers.



Pumps. No. 2. Centrifugal pump for circulating water into the Condenser.

2 Weir Vertical duplex piston for feeding Boilers 912821.

1. 8t " " " for ballast water, bilge, condenser & fire service 1119X2.

1. Black duplex piston pump. 916810 for ashes injector.

1 " " " 548 3 $\frac{1}{2}$ X6 for feeding Donkey Boilers

1 " " " 4 $\frac{1}{2}$ X3 X 4 for circulating water into the ballast of steamer.

1. Wheeler auxiliary condenser with circulating & air pump, for axial steering.

Any machinery when vessel in port.

Appended is the Report on Refrigerating machine.

The Report on Electric Lighting will follow in a few days.

The amount of Entry Fee. £ 3 : : When applied for.
 Special £ 49 : 5 : 10 Aug 90
 Donkey Boiler Fee £ 2 : 2 : When received.
 Travelling Expenses (if any) £ 10 : : 18

Engineer Surveyor to Lloyd's Register of British & Foreign Shipping

26.8.01

Committee's Minute

TUES. AUG 27 1901

Assigned

+ 6 Aug 01



FRI MAR 20 1902

Lloyd's Register Foundation