

# REPORT ON MACHINERY.

No. 1736

Port of Trieste

Received at London Office MON. 23 SEP 1907

No. in Survey held at Trieste

Date, first Survey 17 Sept 1906 Last Survey 14 Sept 1907

Book. 18 on the S. S. Baron Beck (Machinery & Boilers) (Number of Visits 67)

Tons <sup>Gross</sup> 3890 <sub>Net</sub> 2384

Master D. Mistrorigo Built at Trieste By whom built Lloyd Austriaco When built 1907

Machinery made at Trieste By whom made Lloyd Austriaco when made 1906-7

Boilers made at Trieste By whom made Lloyd Austriaco when made 1907

Registered Horse Power 432 Owners Lloyd Austriaco Port belonging to Trieste

Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

GINES, &c.—Description of Engines Triple expansion surface condensing of Cylinders 3 1/2 No. of Cranks 3

No. of Cylinders 24 1/2 x 40 1/2 x 68 Length of Stroke 48 Revs. per minute 84 Dia. of Screw shaft 15 5/8 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 Yes

Is 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 —

Is the space between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive No If two —

Are the shafts fitted, is the shaft lapped or protected between the liners — Length of stern bush 44

Dia. of Tunnel shaft 12 8/16 as per rule 13 5/16 Dia. of Crank shaft journals 13 3/4 as per rule 13 3/4 Dia. of Crank pin 13 3/4 Size of Crank webs 9 x 19 1/2 Dia. of thrust shaft under 13 3/4

No. of Blades 4 State whether moveable Yes Total surface 76.6

No. of Feed pumps 2 Diameter of ditto 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 2 Sizes of Pumps 8 x 8 x 8; 5 x 5 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps —

Engine Room 4 of 3 1/2 diameter In Holds, &c. (12) of 3 1/2 diam.

No. of Bilge Injection 1 sizes 12 Connected to condenser circulating pump — Is a separate Donkey Suction fitted in Engine room & size Yes, 2-3 1/2 in.

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

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

Dates of examination of completion of fitting of Sea Connections 4.7.07 of Stern Tube 29.6.07 Screw shaft and Propeller 4.7.07

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Deck

MILERS, &c.—(Letter for record r) Manufacturers of Steel Lanarkshire, Colville & Co of Scotland

Total Heating Surface of Boilers 6000 Is Forced Draft fitted Yes No. and Description of Boilers 2 single ended multitubular

Working Pressure 200 lbs. Tested by hydraulic pressure to 400 lbs. Date of test 26.6.07 No. of Certificates 67, 68, (69 & 8)

Can each boiler be worked separately Yes Area of fire grate in each boiler 73.25 No. and Description of Safety Valves to —

On each boiler 2 Spring loaded Area of each valve 11 sq in 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 9 Mean dia. of boilers 16.6 Length 11.6 Material of shell plates Steel

Thickness 1 1/2 Range of tensile strength 28 1/2 to 32 lbs Are the shell plates welded or flanged no Descrip. of riveting: cir. seams double

Long. seams double straps Diameter of rivet holes in long. seams 1 1/2 Pitch of rivets 9 1/2 x 13 1/2 Lap of plates or width of butt straps 22 1/4

Percentage of strength of longitudinal joint 90% Working pressure of shell by rules 208 lbs Size of manhole in shell 20 x 16

Size of compensating ring 36 x 32 No. and Description of Furnaces in each boiler 4 Deightons Material steel Outside diameter 3' 8 1/4"

Length of plain part — Thickness of plates 1 1/2 Description of longitudinal joint weld No. of strengthening rings —

Working pressure of furnace by the rules 213 Combustion chamber plates: Material steel Thickness: Sides 3/4 Back 9/8 Top 7/8 Bottom 3/2

Pitch of stays to ditto: Sides 9 x 8 1/2 Back 8 x 7 1/2 Top 9 x 8 1/2 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 206, 214, 214

Material of stays iron Diameter at smallest part 1 1/2 Area supported by each stay 288 7/2 Working pressure by rules 230 End plates in steam space: —

Material Steel Thickness 1 7/8 Pitch of stays 17 1/2 x 16 1/2 How are stays secured 2 7/8 x 10 Working pressure by rules 215 Material of stays Steel

Thickness 3/2 Material of Lower back plate Steel Thickness 3/2 Greatest pitch of stays 13 1/4 Working pressure of plate by rules 242

Diameter of tubes 2 1/2 Pitch of tubes 3 1/2 x 3 1/4 Material of tube plates Steel Thickness: Front 3/2 Back 3/4 Mean pitch of stays 7 1/2

Pitch across wide water spaces 13 1/2 Working pressures by rules 358 & 221 Girders to Chamber tops: Material Steel Depth and —

Thickness of girder at centre 10 x 7 1/2 Length as per rule 31.5 Distance apart 8 1/2 Number and pitch of stays in each (2) 9

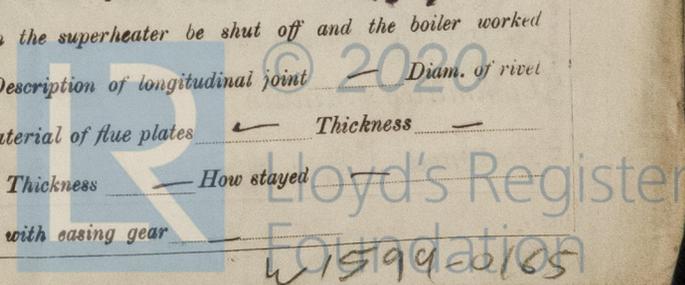
Working pressure by rules 287 Superheater or Steam chest; how connected to boiler None Can the superheater be shut off and the boiler worked —

Separately — Diameter — Length — Thickness of shell plates — Material — Description of longitudinal joint — Diam. of rivet —

Boilers — Pitch of rivets — Working pressure of shell by rules — Diameter of flue — Material of flue plates — Thickness —

Are they 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 —



**VERTICAL DONKEY BOILER—**

Manufacturers of Steel

No. \_\_\_\_\_ Description \_\_\_\_\_

Made at \_\_\_\_\_ By whom made \_\_\_\_\_

Working pressure tested by hydraulic pressure to \_\_\_\_\_ Date of test \_\_\_\_\_ When made \_\_\_\_\_ Where fixed \_\_\_\_\_

Valves No. of Safety Valves \_\_\_\_\_ Area of each \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ No. of Certificate \_\_\_\_\_ Fire grate area \_\_\_\_\_ Description of \_\_\_\_\_

If fitted with easing gear \_\_\_\_\_ If steam from main boilers can enter the donkey boiler \_\_\_\_\_ Date of adjustment \_\_\_\_\_

Material of shell plates \_\_\_\_\_ Thickness \_\_\_\_\_ Range of tensile strength \_\_\_\_\_ Dia. of donkey boiler \_\_\_\_\_ Length \_\_\_\_\_

Dia. of rivet holes \_\_\_\_\_ Whether punched or drilled \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Descrip. of riveting long. seams \_\_\_\_\_

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 \_\_\_\_\_ Stayed by \_\_\_\_\_

Diameter of uptake \_\_\_\_\_ Thickness of uptake plates \_\_\_\_\_ Thickness of water tubes \_\_\_\_\_ Dates of survey \_\_\_\_\_

**SPARE GEAR.** State the articles supplied:— *1 Crank shaft, 1 set coupling bolts, 1 propeller shaft with continuous liner, 4 propeller blades and set of studs and nuts, 2 main bolts & nuts, 2 top end bolts, 2 bottom end bolts, 1 pair top end brasses and bottom brasses, 1 piston rod, 50 Condenser tubes, 3 Valve spindles, 2 eccentric straps, Air pump*

The foregoing is a correct description,

Manufacturer. *J. M. MacKay*

Dates of Survey while building	During progress of work in shops—	17/9/06, 28/9, 4/10, 10/10, 22/10, 27/10, 3/11, 8/11, 13/11, 17/11, 20/11, 27/11, 28/11, 4/12, 5/12, 7/12, 12/12
	During erection on board vessel—	23/5, 27/5, 28/5, 29/5, 4/6, 5/6, 10/5, 13/6, 19/6, 22/6, 26/5, 29/6, 4/7, 5/7, 8/7, 9/7, 10/7, 11/7, 19/7
	Total No. of visits	67

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

Dates of Examination of principal parts—Cylinders *17/9/06* Slides *27/11/06* Covers *9/10/06* Pistons *27/10/06* Rods *7/12*

Connecting rods *27/10/06* Crank shaft *5/12/06* Thrust shaft *5/12/06* Tunnel shafts *5/12/06* Screw shaft *5/12/06* Propeller *4/7*

Stern tube *9/7/07* Steam pipes tested *6 August/07* Engine and boiler seatings *24/8/07* Engines holding down bolts *24/8/07*

Completion of pumping arrangements *1 August/07* Boilers fixed *19/7/07* Engines tried under steam *15 September*

Main boiler safety valves adjusted *14 September* Thickness of adjusting washers *P.B. 5 1/2 5 1/2 S.B. 7 1/2 13 1/2*

Material of Crank shaft *Steel* Identification Mark on Do. *M.K. 5403* Material of Thrust shaft *Steel* Identification Mark on Do. *J.M. 5 per back*

Material of Tunnel shafts *Steel* Identification Marks on Do. *M.K. 3733, 3734, J.M. 5404, 5405, 5406, 5407* Material of Screw shafts *Iron* Identification Marks on Do. *F.C. 12*

Material of Steam Pipes *Copper* Test pressure *400 lbs water pressure 6/8/07*

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

*The machinery and boilers of this vessel have been constructed in accordance with the rules and approved plans and the workmanship is good.*

*The Glasgow report N° 24820 is enclosed herewith*

*The report on the Electric Lighting Installations will be forwarded in the course of a few days.*

It is submitted that this vessel is eligible for **THE RECORD.** + L.M.C 9.07

*Elec: Light F.D.*  
*F.R.R.*  
*23.9.07*

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

Certificate (if required) to be sent to \_\_\_\_\_

The amount of Entry Fee.	<i>Mr 72</i>	When applied for.	<i>17 Sept 1907</i>
Donkey Boiler Fee	<i>Mr 998. 50</i>	When received.	<i>27.9.07</i>
Travelling Expenses (if any) £	<i>Mr 50: 50</i>		

TUES. 24 SEP 1907



MACHINERY CERTIFICATE WRITTEN

*+ L.M.C 9.07*  
*F. D. elec light*