

# REPORT ON MACHINERY

No. 24326

TUE OCT. 24 1911

Received at London Office

Date of writing Report 19 // When handed in at Local Office 10 // Port of Hull  
 No. in Survey held at Hull & Goole Date, First Survey Jan 3<sup>rd</sup> Last Survey Oct 20<sup>th</sup> 1911  
 Reg. Book. 737 on the Steel Se. Alvear (Number of Visits 70.)  
 Master Built at Goole By whom built Goole S. B. R. Co. Ltd. Tons Gross 204 Net 9  
 Engines made at Hull By whom made Messrs. Earle's Co. Ltd. When built 1911  
 Boilers made at " By whom made " " " " when made 1911  
 Registered Horse Power Owners Campana Argentina de Navegacion Port belonging to Buenos Ayres  
 Nom. Horse Power as per Section 28 93 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

**ENGINES, &c.**—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3  
 Dia. of Cylinders 13 1/2" - 22" - 37" Length of Stroke 24 Revs. per minute Dia. of Screw shaft as per rule 7.6 Material of screw shaft S  
 as fitted 8.125 Is the screw shaft fitted with a continuous liner the whole length of the stern tube No 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 liners separate 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 If two  
 liners are fitted, is the shaft lapped or protected between the liners No Length of stern bush 34 1/2"  
 Dia. of Tunnel shaft as per rule 6.67 Dia. of Crank shaft journals as per rule 7.0 Dia. of Crank pin 7.25 Size of Crank webs 14" x 4 1/8" Dia. of thrust shaft under  
 collars 7.25" Dia. of screw 8'-6" Pitch of Screw 12'-0" No. of Blades 4 State whether moveable No Total surface 36 sq ft  
 No. of Feed pumps Two Diameter of ditto 2 1/2" Stroke 15" Can one be overhauled while the other is at work Yes  
 No. of Bilge pumps Two Diameter of ditto 2 1/2" Stroke 15" Can one be overhauled while the other is at work Yes  
 No. of Donkey Engines One Sizes of Pumps 6" x 4" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room Two 2 1/2", One 3 1/2" In Holds, &c. One 2" hold, one 2 1/2" aft well.  
 One 2 1/2" aft tank, one 2" fore tank.  
 No. of Bilge Injections 1 sizes 3 1/2" Connected to condenser, or to circulating pump pumps as a separate Donkey Suction fitted in Engine room & size Yes 2 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 O  
 Are 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  
 What pipes are carried through the bunkers None 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 20. 7. 11 of Stern Tube 20. 7. 11 Screw shaft and Propeller 20. 7. 11  
 Is the Screw Shaft Tunnel watertight None Is it fitted with a watertight door worked from

**BOILERS, &c.**—(Letter for record S.) Manufacturers of Steel Phoenix Act. Geo. fur. B. H. Hoese.  
 Total Heating Surface of Boilers 1700 sq ft Is Forced Draft fitted No No. and Description of Boilers 1 Cyl. Multi S. Ended.  
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 7-7-11 No. of Certificate 1822  
 Can each boiler be worked separately Area of fire grate in each boiler 47 sq ft No. and Description of Safety Valves to  
 each boiler Two Spring Area of each valve 4.9 sq in Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork 7" Mean dia. of boilers 13'-3" Length 11'-6" Material of shell plates S  
 Thickness 1 3/32" Range of tensile strength 28-32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams L.D.  
 long. seams S.B.S.R. Diameter of rivet holes in long. seams 1 1/4" Pitch of rivets 8 5/16" Lap of plates or width of butt straps 18 1/8"  
 Per centages of strength of longitudinal joint rivets 100. Working pressure of shell by rules 181 lbs Size of manhole in shell 16" x 12"  
 plate 84.9 No. and Description of Furnaces in each boiler 2 Doughtons Material S Outside diameter 4'-3 1/4"  
 Size of compensating ring 7 1/2" x 1 3/32" Length of plain part top Thickness of plates crown 5/8" Description of longitudinal joint Welded No. of strengthening rings 0  
 bottom Thickness of plates bottom 7/8" Working pressure of furnace by the rules 196 lbs Combustion chamber plates: Material S Thickness: Sides 23/32" Back 21/32" Top 23/32" Bottom 23/32"  
 Working pressure of furnace by the rules 196 lbs Pitch of stays to ditto: Sides 10 1/4" x 9 1/2" Back 9 3/8" x 8 1/4" Top 10 1/4" x 9 1/2" If stays are fitted with nuts or riveted heads No Working pressure by rules 182 lbs  
 Material of stays S Diameter at smallest part 1 5/8" Area supported by each stay 103.125 Working pressure by rules 180 lbs End plates in steam space:  
 Material S Thickness 1 5/32" Pitch of stays 18 1/2" x 17 1/2" How are stays secured O. No. Working pressure by rules 184 lbs Material of stays S  
 Area Diameter at smallest part 6.23 Area supported by each stay 323.75 Working pressure by rules 200 lbs Material of Front plates at bottom S  
 Thickness 29/32" Material of Lower back plate S Thickness 7/8" Greatest pitch of stays 13 3/4" x 9 7/8" Working pressure of plate by rules 191 lbs  
 Diameter of tubes 3 1/2" Pitch of tubes 4 7/8" x 4 7/8" Material of tube plates S Thickness: Front 29/32" Back 13/16" Mean pitch of stays 9 3/4"  
 Pitch across wide water spaces 13 1/2" Working pressures by rules 196 lbs Girders to Chamber tops: Material S Depth and  
 thickness of girder at centre 9" x 1 1/2" Length as per rule 2'-6 23/32" Distance apart 10 1/4" Number and pitch of stays in each 2. 9 1/2"  
 Working pressure by rules 194 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  
 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

**VERTICAL DONKEY BOILER—** Manufacturers of Steel

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

Made at \_\_\_\_\_ By whom made \_\_\_\_\_ When made \_\_\_\_\_ Where fixed \_\_\_\_\_

Working pressure tested by hydraulic pressure to \_\_\_\_\_ Date of test \_\_\_\_\_ No. of Certificate \_\_\_\_\_ Fire grate area \_\_\_\_\_ Description of Safety \_\_\_\_\_

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

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

SPARE GEAR. State the articles supplied:— Two each top and bottom end connecting rod bolts and nuts, two main bearing bolts and nuts, one set coupling bolts and nuts, one set each, air circulating, feed and bilge pump valves, iron various sizes, and a quantity of assorted bolts nuts etc.

The foregoing is a correct description,

*J. J. Salethorpe* Manufacturer.

Dates of Survey while building: During progress of work in shops - Jan 3, 10, 12, 14, 18, 31, Feb 2, 3, 8, 10, 11, 13, 15, 21, 24, 27, Mar 2, 6, 8, 13, 21, Mar 22, 23, Apr 5, 7, 13, 20, 27, May 1, 9, 11, 16, 19, 20, 31, Jun 1, 8, 12, 19, 26, 28, July 3, 5, 7, 11, 19, 20, July 25, 29, 31, Aug 4, 5, 14, 23, 24, 28, 30, Sep 12, 15, 18, 20, 21, 22, 23, Oct 5, 13, 16, 17, 20.

Total No. of visits 70.

Is the approved plan of main boiler forwarded herewith *No* it was forwarded with *Rpt. No. 23829*

Dates of Examination of principal parts—Cylinders 11. 4. 11 Slides 22. 7. 11 Covers 8. 2. 11 Pistons 19. 7. 11 Rods 19. 7. 11

Connecting rods 22. 7. 11 Crank shaft 19. 6. 11 Thrust shaft 26. 5. 11 Tunnel shafts 26. 5. 11 Screw shaft 19. 6. 11 Propeller 19. 6. 11

Stern tube 19. 6. 11 Steam pipes tested 23. 9. 11 Engine and boiler seatings 31. 7. 11 Engines holding down bolts 5. 10. 11

Completion of pumping arrangements 20. 10. 11 Boilers fixed 5. 10. 11 Engines tried under steam 20. 10. 11

Main boiler safety valves adjusted 20. 10. 11 Thickness of adjusting washers  $\frac{3}{8}$ "  $\frac{3}{8}$ "

Material of Crank shaft S Identification Mark on Do. 736 J.B. Material of Thrust shaft 698 J.H.G. Identification Mark on Do. 698 J.H.G.

Material of Tunnel shafts S Identification Marks on Do. 698 J.H.G. Material of Screw shafts S Identification Marks on Do. 26. 5. 11

Material of Steam Pipes Solid drawn Copper Test pressure 400 lbs

General Remarks (State quality of workmanship, opinions as to class, &c. *The engines and boiler of this vessel have been constructed under special survey in accordance with the Rules, the materials and workmanship are good. The boiler tested by hydraulic pressure, and with the engines secured on board, and tested under steam they are now in good order, and safe working condition and respectfully submitted as being eligible in my opinion to be classed with the notation of L.M.B. 10. 11 in the Register Book*

It is submitted that this vessel is eligible for THE RECORD. + LMC 10. 11.

The amount of Entry Fee .. £ 1 : : When applied for, 18. 10. - 19. 11.

Special .. £ 13 : : 19 : : 18. 10. - 19. 11.

Donkey Boiler Fee .. £ : : When received, 1. 11. : : 19. 11.

Travelling Expenses (if any) £ : : 9 : : 3 : : 19. 11.

*James Barclay*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

FRI. OCT. 27. 1911

Assigned

+ L.M.B. 10. 11

MACHINERY CERTIFICATE  
WRITTEN



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Lloyd's Register  
Foundation

Certificate (if required) to be sent to Hull

The Surveyors are requested not to write on or below the space for Committee's Minute.