

# YACHT REPORT ON MACHINERY.

SAT. 22 SEP 1906

Received at London Office

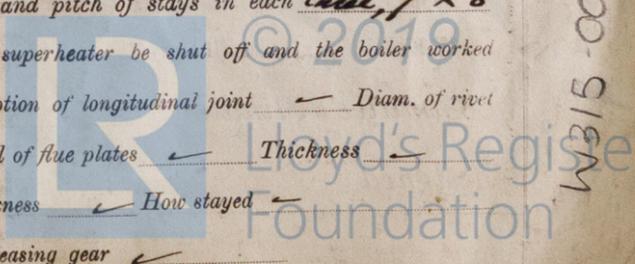
Port of Southampton

No. in Survey held at Southampton Date, first Survey Nov 27 1905 Last Survey 19 Sept 1906  
 Reg. Book. on the Steel Screw Yacht "Medusa" (Number of Visits 49) Gross 597.75  
 Master Spriddle Built at Southampton By whom built Day, Summers & Co Ltd When built 1906  
 Engines made at Southampton By whom made Mpi Day, Summers & Co Ltd when made 1906  
 Boilers made at do By whom made do when made 1906  
 Registered Horse Power 152 Owners Alfred Langham Esq Port belonging to Southampton  
 Nom. Horse Power as per Section 28 152 Is Refrigerating Machinery fitted for cargo purposes yes Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Triple expansion inverted Cyls No. of Cylinders three No. of Cranks three  
 Dia. of Cylinders 16, 26, 42 Length of Stroke 27 Revs. per minute 122 Dia. of Screw shaft as per rule 9.02 Material of steel  
 as fitted 9 1/8 screw shaft  
 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 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 no If two  
 liners are fitted, is the shaft lapped or protected between the liners yes Length of stern bush 3.1  
 Dia. of Tunnel shaft as per rule 8.02 Dia. of Crank shaft journals as per rule 8.42 Dia. of Crank pin 8 1/2 Size of Crank webs 6x13 Dia. of thrust shaft under  
 collars 8 1/2 Dia. of screw 10.0 Pitch of Screw 13.0 No. of Blades 4 State whether moceable solid Total surface 31.5 sq ft  
 No. of Feed pumps 2 Diameter of ditto 5 1/2 Stroke 15 Can one be overhauled while the other is at work yes  
 No. of Bilge pumps 2 Diameter of ditto 3 Stroke 13 1/2 Can one be overhauled while the other is at work yes  
 No. of Donkey Engines one Sizes of Pumps Dacting 7 x 5 x 8 No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room Three 2 1/2" Suctions In Holds, &c. one 2 1/2" Suction in each  
hold, and one 2" Suction to fore peak.  
 No. of Bilge Injections one sizes 5 1/2 Connected to condenser, or to circulating pump Circ. Is 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 no  
 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 Below  
 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 Widley Steam & exhaust Bilge Suct & Sanitary pipes. How are they protected 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 May 9<sup>th</sup> of Stern Tube May 9<sup>th</sup> Screw shaft and Propeller May 9<sup>th</sup>  
 Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from Main Deck

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel Plater, Jno Dunlop & Co Calderbank  
Baro & Stays Larnackshire Steel Co Motherwell  
 Total Heating Surface of Boilers 2380 sq ft Is Forced Draft fitted yes No. and Description of Boilers one Cylindrical Multitubular  
 Working Pressure 200 lbs Tested by hydraulic pressure to 400 lbs Date of test 28 May 1906 No. of Certificate 254  
 Can each boiler be worked separately no Area of fire grate in each boiler 70.24 sq ft No. and Description of Safety Valves to  
 each boiler Two Spring Loaded Area of each valve 11.04 Pressure to which they are adjusted 200 lbs Are they fitted with easing gear yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork 11 Mean dia. of boilers 14.6 Length 11.6 Material of shell plates Steel  
 Thickness 1 1/4 Range of tensile strength 29 to 32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams double  
 long. seams single Diameter of rivet holes in long. seams 1 5/16 Pitch of rivets 7/4 x 4/8 Lap of plates or width of butt straps 1.7 3/8  
 Per centages of strength of longitudinal joint rivets 86.9% Working pressure of shell by rules 200 lbs Size of manhole in shell 12 x 16  
 plate 85.8% Size of compensating ring 1 1/4 McNeil's No. and Description of Furnaces in each boiler 3 Deightons Material Steel Outside diameter 3.9 1/2  
 Length of plain part top 19 Thickness of plates crown 32 Description of longitudinal joint Welded No. of strengthening rings no  
 bottom 32 Working pressure of furnace by the rules 209 lbs Combustion chamber plates: Material Steel Thickness: Sides 32 Back 32 Top 32 Bottom 2  
 Pitch of stays to ditto: Sides 7 1/2 x 7 Back 7 1/2 x 7 1/4 Top 7 x 8 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 217 lbs  
 Material of stays Steel Diameter at smallest part 1.44 Area supported by each stay 56 Working pressure by rules 203 lbs End plates in steam space:  
 Material Steel Thickness 1 1/16 Pitch of stays 1.5 x 1.3 How are stays secured Welded Working pressure by rules 209 lbs Material of stays Steel  
 Diameter at smallest part 5.2 Area supported by each stay 255 Working pressure by rules 203 lbs Material of Front plates at bottom Steel  
 Thickness 1 Material of Lower back plate Steel Thickness 7/8 Greatest pitch of stays 13 1/2 x 7 1/4 Working pressure of plate by rules 270 lbs  
 Diameter of tubes 3 Pitch of tubes 4 x 4 Material of tube plates Steel Thickness: Front 1 1/16 Back 32 Mean pitch of stays 12  
 Pitch across wide water spaces 13 1/2 Working pressures by rules 226 lbs Girders to Chamber tops: Material Steel Depth and  
 thickness of girder at centre 7 3/4 x 1 3/4 Length as per rule 2.5 1/2 Distance apart 8 Number and pitch of stays in each three 7 x 8  
 Working pressure by rules 217 lbs Superheater or Steam chest; how connected to boiler no Can the superheater be shut off and the boiler worked  
 separately no Diameter no Length no Thickness of shell plates no Material no Description of longitudinal joint no Diam. of rivet  
 holes no Pitch of rivets no Working pressure of shell by rules no Diameter of flue no Material of flue plates no Thickness no  
 If stiffened with rings no Distance between rings no Working pressure by rules no End plates: Thickness no How stayed no  
 Working pressure of end plates no Area of safety valves to superheater no Are they fitted with easing gear no

W315-0014



VERTICAL DONKEY BOILER—Manufacturers of Steel

No. \_\_\_\_\_ Description *Please see Donkey Boiler Report attached.*

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 *Spring loaded* No. of Safety Valves *two* Area of each *3.976* Pressure to which they are adjusted *90 lbs* Date of adjustment *2 July 1906*

If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no* Dia. of donkey boiler \_\_\_\_\_ Length \_\_\_\_\_

Material of shell plates \_\_\_\_\_ Thickness \_\_\_\_\_ Range of tensile strength \_\_\_\_\_ Descrip. of riveting long. seams \_\_\_\_\_ Rivets \_\_\_\_\_

Dia. of rivet holes \_\_\_\_\_ Whether punched or drilled \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Lap of plating \_\_\_\_\_ Per centage of strength of joint \_\_\_\_\_ 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:—*1 set of valves & guards for Air Pump. 1 set for Main & Donkey Feed and Bilge Pump. Two main bearing bolts & nuts also 2 crank pin & piston rod bolts. 1 set of coupling bolts. 1 pair of crank pin braces. 1 slide valve spindle. 1 air pump rod. 1 radius link slide block. 20 condenser tubes. 30 boiler tubes & 2 stay tubes. 6 junk ring studs & nuts. 1 eccentric strap complete. 24 spare studs. 1 escape valve spring of each size. 2 safety valve springs for Main Boiler. The foregoing is a correct description, and 1 for Donkey Boiler. Centrifugal pump 1 set of connecting rod piston rod and crank shaft bolts complete and 1 crank shaft and eccentric strap complete.*

Manufacturer. *J. J. Dykes*

Dates of Survey while building

During progress of work in shops—*Nov 27, Dec 1-14-16-21-1905, Jan 5, 18, 23, Feb 1, 9, 15, 20, 28, March 7, 14, 19, 20, 22.*

During erection on board vessel—*26, 29, April 4-5-11, 12, 17, 19, 21, 25, May 9, 11, 14, 16, 17, 21, 22, 28, June 6, 13, 18, 20, 21.*

Total No. of visits *49.* Is the approved plan of main boiler forwarded herewith *yes.*

Dates of Examination of principal parts—Cylinders *Dec 21, Jan 5, 18, Feb 1, 9, 15, 20, 28, March 7, 14, 19, 20, 22.* Slides *Jan 5, 18, Feb 1, 9, 15, 20, 28, March 7.* Covers *Jan 5, 18, Feb 1, 9, 15, 20, 28, March 7.* Pistons *Jan 5, 18, Feb 1, 9, 15, 20, 28, March 7.* Rods *Jan 5, 18, Feb 1, 9, 15, 20, 28, March 7.* " donkey " *yes.*

Connecting rods *Jan 23, Feb 9, April 5, 11.* Crank shaft *See foregoing report attached.* Tunnel shafts *See foregoing report attached.* Material of Thrust shafts *Steel* Identification Mark on Do. *85, R.F.M.*

Stern tube *May 9.* Steam pipes tested *21 Jan 1906* Engine and boiler seatings *May 16, 17, 21* Engines holding down bolts *May 16, 21, 22, June 6.*

Completion of pumping arrangements *May 17.* Boilers fixed *June 6-13-18.* Engines tried under steam *July 10.*

Main boiler safety valves adjusted *June 27.* Thickness of adjusting washers *Star 2 17/32, Nut 9/16.*

Material of Crank shaft *steel* Identification Mark on Do. *ATG, R.F.M.* Material of Thrust shafts *Steel* Identification Mark on Do. *85, R.F.M.*

Material of Tunnel shafts *steel* Identification Marks on Do. *86-87* Material of Screw shafts *steel* Identification Marks on Do. *88 R.F.M.*

Material of Steam Pipes *Copper.* Test pressure *400 lbs.*

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

*The Engines & Boilers of this vessel have now been built under special survey and in accordance with the approved plans and Secretary's letters dated 23/10/05, 19/12/05, 20/1/06, 8/5/06, 12/5/06, 15/5/06. The materials and workmanship are of a good quality and when tried under steam was found satisfactory in every respect. And is now in my opinion eligible for the notification *L.M.C. 9-06* with F.D. to be recorded in the Yacht Register Book.*

*It is submitted that this vessel is eligible for F.D. RECORD*

*L.M.C. 9-06 F.D. ELEC. LIGHT.*

The amount of Entry Fee. £ : : When applied for, \_\_\_\_\_

Special £ *22:16* : : *20 Sep 1906*

Donkey Boiler Fee £ : : When received, \_\_\_\_\_

Travelling Expenses (if any) £ : : \_\_\_\_\_

*John Dykes*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute *TUES. SEP 25 1906*

Assigned *+ L.M.C. 9-06 F.D. Elec Light*

MACHINERY CERTIFICATE WRITTEN. 2-10-06



Write "Sheer Strake" opposite its corresponding letter.

Le M B F R

Sam Thompson

Certificate (if required) to be sent to

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