

Rpt. 4.

YACHT REPORT ON MACHINERY.

No.

4864
6308

SAT. 22 SEP 1906

Port of Southampton

Received at London Office

19

No. in Survey held at
Reg. Book.

Southampton

Date, first Survey Nov 27 1905 Last Survey 19 Sept 1906

(Number of Visits 49.)

on the Steel Screw Yacht "Medusa"

Master Spriddle Built at Southampton By whom built Day Summers & Co Ltd

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

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 Cyl. 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 9.8" 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 — 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 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 8.2" Size of Crank webs 6x13" Dia. of thrust shaft under

collars 8.2" Dia. of screw 10.0" Pitch of Screw 13.0" No. of Blades 4. State whether moveable skin Total surface 31.5 sq ft

No. of Feed pumps 2. Diameter of ditto 5.2" Stroke 15" Can one be overhauled while the other is at work yes.

No. of Bilge pumps 2. Diameter of ditto 3" Stroke 13.5" 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 2.2" Suctions In Holds, &c. one 2.2" Suction in each

hold. and one 2" Suction to fore peak.

No. of Bilge Injections one sizes 5.2" Connected to condenser, or to circulating pump Cic. Is a separate Donkey Suction fitted in Engine room & size yes 2.2"

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 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 Windlass Steam & exhaust Bilge Suction & 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 9th of Stern Tube May 9th Screw shaft and Propeller May 9th

Is the Screw Shaft Tunnel watertight — Is it fitted with a watertight door yep to Bulkhead worked from Main Deck.

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel Gates, Jno Dunlop & Co Calderbank

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 — 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 1.4" Range of tensile strength 29 to 32 Are the shell plates welded or flanged — Descrip. of riveting: cir. seams double

long. seams Double. Diameter of rivet holes in long. seams 1.5/16" Pitch of rivets 7/4 x 7/8 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"

Size of compensating ring 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 — Thickness of plates crown 3/32" Description of longitudinal joint Welded. No. of strengthening rings —

bottom — Thickness of plates bottom 3/32" Working pressure of furnace by the rules 209 lbs. Combustion chamber plates: Material Steel Thickness: Sides 3/32" Back 3/32" Top 3/32" Bottom 1/8"

Pitch of stays to ditto: Sides 7/2 x 7/4 Back 7/2 x 7/4 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 1.7/16" Pitch of stays 1.5 x 1.3 How are stays secured Nut & Washer. 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 7/4 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 1.7/16" Back 3/32" 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 tube 7 x 8"

Working pressure by rules 217 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 —

100-5161
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. *W. 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, Jan 5, 18, Feb 1, 9, 15, 20, 28, March 7, 14, 19, 20, 22.*

Connecting rods *Jan 23, Feb 9, March 7, April 11, May 9, 11, 14, 16, 17, 21, 22, 28, June 6, 13, 18, 20, 21.*

Stern tube *May 9,* Steam pipes tested *21 June 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 *Starb $\frac{9}{32}$ Port $\frac{7}{16}$.*

Material of Crank shaft *steel* Identification Mark on Do. *ATG.* Material of Thrust shafts *steel* Identification Mark on Do. *85. REM.*

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

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. 26/1/06. 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. ELECT. LIGHT.

The amount of Entry Fee. £ : : When applied for, *20 Sep 1906*

Special £ *22:16* : : When received, *29 Sep 1906*

Donkey Boiler Fee £ : : : *29 Sep 1906*

Travelling Expenses (if any) £ : : : *29 Sep 1906*

Committee's Minute *TUES. SEP 25 1906*

Assigned

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

MACHINERY CERTIFICATE
WRITTEN. 2-10-06

Lloyd's Register Foundation