

# REPORT ON MACHINERY.

Port of

PHILADELPHIA.

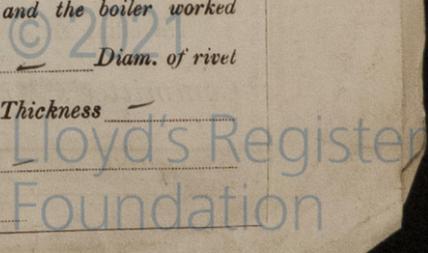
Received at London Office SAT. JUN. 21. 1913

No. in Survey held at Camden N. J. Date, first Survey May 13-1912 Last Survey June 5<sup>th</sup> 1913  
 Reg. Book. 175 on the S.S. SOCONY (Number of Visits 60)  
 Master T. Feulon Built at Camden N. J. By whom built New York S.B.C. Tons { Gross 3663.7  
 Engines made at Camden N. J. By whom made New York S.B.C. when made 1913-6 Net 2223-0  
 Boilers made at do By whom made do when made 1913-6  
 Registered Horse Power 318 Owners Standard Oil Co Port belonging to New York  
 Nom. Horse Power as per Section 28 318 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

**ENGINES, &c.**—Description of Engines Inverted triple No. of Cylinders 3 No. of Cranks 3  
 Dia. of Cylinders 21" 35" 58" Length of Stroke 42" Revs. per minute 80 Dia. of Screw shaft 12.43" Material of O.H. steel  
 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  
 in the propeller boss yes If the liner is in more than one length are the joints burned soldered 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 fitted close If two  
 liners are fitted, is the shaft lapped or protected between the liners no Length of stern bush 5.1"  
 Dia. of Tunnel shaft 11.34" Dia. of Crank shaft journals 11.8" Dia. of Crank pin 12" Size of Crank webs 25x8 1/2 Dia. of thrust shaft under  
 collars 12" Dia. of screw 15.0" Pitch of Screw 15.0" No. of Blades 4 State whether moveable yes Total surface 60 sq ft  
 No. of Feed pumps 2 Diameter of ditto 4 1/2" Stroke 20" Can one be overhauled while the other is at work yes  
 No. of Bilge pumps 2 Diameter of ditto 4 1/2" Stroke 20" Can one be overhauled while the other is at work yes  
 No. of Donkey Engines 5 Sizes of Pumps 2 Dup. 6.4 3/4 x 6.7 1/2 5.10 x 16.10 1/4 No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room 6-3 1/2" In Holds, &c. A Peak 1-3" F Peak 1-4" for  
hold 2-6" pump room 2-3 1/2"  
 No. of Bilge Injections 1 sizes 8" Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size yes 3 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 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 no  
 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 17.4.13 of Stern Tube 17.4.13 Screw shaft and Propeller 17.4.13  
 Is the Screw Shaft Tunnel watertight none Is it fitted with a watertight door worked from

**BOILERS, &c.**—(Letter for record T) Manufacturers of Steel Worth New Conterville  
 Total Heating Surface of Boilers 5762 sq ft Forced Draft fitted no No. and Description of Boilers 2 Mult-tube single ended  
 Working Pressure 200 lbs Tested by hydraulic pressure to 300 lbs Date of test 17.3.13 No. of Certificate 44  
 Can each boiler be worked separately yes Area of fire grate in each boiler 80 sq ft No. and Description of Safety Valves to  
 each boiler 2 direct spring Area of each valve 8.29 sq ft Pressure to which they are adjusted 200 lbs Are they fitted with easing gear yes  
 Smallest distance between boilers or uptakes and bunkers 7.0' Mean dia. of boilers 16.1 1/2" Length 11.6' Material of shell plates steel  
 Thickness 1/2" Range of tensile strength 29 32 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams lap d.T.  
 long. seams D.B.S.T.R. Diameter of rivet holes in long. seams 1 1/16" Pitch of rivets 9 3/4" Lap of plates or width of butt straps 22 3/4"  
 Per centages of strength of longitudinal joint rivets 89.8 Working pressure of shell by rules 209 lbs Size of manhole in shell 16x12"  
 plate 83.7 Size of compensating ring 36 1/2, 32 1/2, 1 1/2 No. and Description of Furnaces in each boiler 4 Morrison Material steel Outside diameter 44 3/16"  
 Length of plain part top 4 1/2" Thickness of plates crown 19" Description of longitudinal joint welded No. of strengthening rings none  
 bottom 32 Working pressure of furnace by the rules 213 lbs Combustion chamber plates: Material steel Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 5/8"  
 Pitch of stays to ditto: Sides 7x6 1/2" Back 7x6 1/2" Top 7x7 1/4" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 247 lbs  
 Material of stays iron Diameter at smallest part 1.81" Area supported by each stay 54.25 sq ft Working pressure by rules 250 End plates in steam space:  
 Material steel Thickness 1 1/8" Pitch of stays 16 1/2 x 15 1/4 How are stays secured D.N.W Working pressure by rules 231 lbs Material of stays steel  
 Diameter at smallest part 2 7/8" Area supported by each stay 251 sq ft Working pressure by rules 259 lbs Material of Front plates at bottom steel  
 Thickness 3/4" Material of Lower back plate steel Thickness 5/8" Greatest pitch of stays 14 1/4" Working pressure of plate by rules 364 lbs  
 Diameter of tubes 3" Pitch of tubes 4x4 1/4" Material of tube plates steel Thickness: Front 3/4" Back 3/4" Mean pitch of stays 8x8 1/2"  
 Pitch across wide water spaces 14x14 Working pressures by rules 231 lbs Girders to Chamber tops: Material steel Depth and  
 thickness of girder at centre 9x2" Length as per rule 35" Distance apart 7 3/4" Number and pitch of stays in each 4-7"  
 Working pressure by rules 252 lbs Superheater or Steam chest; how connected to boiler none Can the superheater be shut off and the boiler worked  
 separately yes 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

2010-4621M



VERTICAL DONKEY BOILER— Manufacturers of Steel

No. 1 Description *Watertight boiler see separate report*

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:— 1 tail shaft, section crank shaft, 1 propeller boss two blade, 4 main bearings, 2 crank pin & two crosshead branes, 1 set coupling bolts, 2 crank pin, crosshead & main bearing bolts, 1 Piston rod, 1 valve spindle & a quantity of feed (donkey) bilge pump valve bolts & rivets.

The foregoing is a correct description,  
*Hallagoun* Manufacturer.

Dates of Survey while building	During progress of work in shops—	May 13-17-22 June 10-14-19 20-25-27 July 2-10-18-24-27 Aug 2-6-12-23-6-9 Sept 3-10-16-19-21-25-27 Oct 1-14-21-28 Nov 7-12-18-29
	During erection on board vessel—	April 19 May 1-7-13-17-21-28 June 3-5
	Total No. of visits	60

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

Is the approved plan of donkey boiler forwarded herewith *yes*

Dates of Examination of principal parts—Cylinders 5-12-17 Slides 29-1-13 Covers 29-1-13 Pistons 29-1-13 Rods 29-1-13

Connecting rods 28-1-13 Crank shaft 4-10-12 Thrust shaft 4-10-12 Tunnel shafts — Screw shaft 27-1-13 Propeller 27-1-13

Stern tube 27-1-13 Steam pipes tested 15-4-13 Engine and boiler seatings 11-3-13 Engines holding down bolts 15-4-13

Completion of pumping arrangements 27-5-13 Boilers fixed 15-4-13 Engines tried under steam 7-5-13

Main boiler safety valves adjusted 27-5-13 Thickness of adjusting washers *P Boiler F 3/4 A 9/16 Sh Boiler F 1/2 A 5/8*

Material of Crank shaft *Steel* Identification Mark on Do. *822 RH* Material of Thrust shaft *Steel* Identification Mark on Do. *822 RH*

Material of Tunnel shafts — Identification Marks on Do. — Material of Screw shafts *Steel* Identification Marks on Do. *822 RH*

Material of Steam Pipes *Solid drawn steel* Test pressure *500 lbs*

General Remarks (State quality of workmanship, opinions as to class, &c.) *Main feed pumps are two Albright patent four stage steam turbine driven pumps duplicate as in sister ships Phil Reports #1943-1967-2009. The machinery of this vessel has been constructed & fitted on board under special survey. The workmanship is sound & good. The main boilers & donkey boiler have been fitted to burn liquid fuel, the White System of mechanical atomization has been installed & found to work well. Section #49 of the Rules has been fully complied with. The machinery of this vessel has been tried under steam & found to work well which in my opinion renders the vessel eligible for the record of +LMC 6-13 fitted for liquid fuel in the Register Book.*

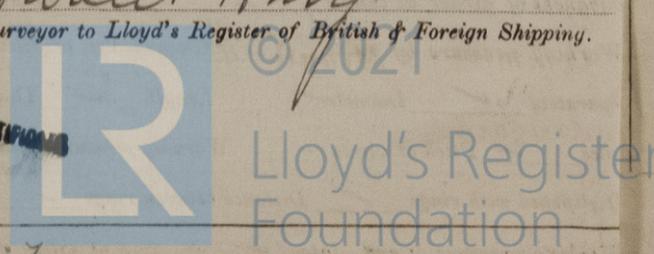
Duplicate of SS VESTA Phil report #2009.

The amount of Entry Fee	\$ 15: 00	When applied for	10-6-1913
Special	\$ 80: 00	When received	16/6/13
Donkey Boiler Fee	£ :		
Travelling Expenses (if any)	\$ 4: 00		

*Robert Haig*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute  
 Assigned

TUE. JUN. 24. 1913  
 + L.M.C. 6.13  
 subject  
 fitted for oil fuel 6.13 F.P. above 150°F



PHILADELPHIA

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