

# REPORT ON MACHINERY.

No. 9393

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Date of writing Report 19 11/3/14 When handed in at Local Office 11/3/14 Port of Grimsby  
 No. in Survey held at Grimsby Date, First Survey 29/1/14 Last Survey 27/2/1914  
 Reg. Book. 1619 on the 95 Rea of Sorrento (Number of Visits Sorrento)  
 Master Sandefjord Built at Sandefjord By whom built Franses Mek Verksted When built 1906  
 Engines made at Christiana By whom made Aker Mek Verksted when made 1906  
 Boilers made at do. By whom made Aker Mek Verksted when made 1906  
 Registered Horse Power \_\_\_\_\_ Owners \_\_\_\_\_ Port belonging to Praeus  
 Nom. Horse Power as per Section 28 156 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

**ENGINES, &c.**—Description of Engines Triple Expansion Inverted No. of Cylinders 3 No. of Cranks 3  
 Dia. of Cylinders 18. 29. 48 Length of Stroke 33 Revs. per minute \_\_\_\_\_ Dia. of Screw shaft 9.76 Material of screw shaft as fitted 9.75  
 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 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 Solid If two liners are fitted, is the shaft lapped or protected between the liners \_\_\_\_\_ Length of stern bush 40  
 Dia. of Tunnel shaft 8.95 as per rule 8.87 Dia. of Crank shaft journals 9.44 as per rule 9.35 Dia. of Crank pin 9.375 Size of Crank webs 16x16 Dia. of thrust shaft under collars 9.375 Dia. of screw 11-6 Pitch of Screw 12-7 No. of Blades 4 State whether moveable no Total surface 40  
 No. of Feed pumps 2 Diameter of ditto 27/8 Stroke 20 Can one be overhauled while the other is at work yes  
 No. of Bilge pumps 2 Diameter of ditto 3 3/4 Stroke 16 Can one be overhauled while the other is at work yes  
 No. of Donkey Engines 2 Sizes of Pumps 7 1/2 x 9 4 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room 2-2 1/4 1-2 1/2 3mm bilge & an throatwell In Holds, &c. 2 at mngo 2 1/2 at centre well.  
 No. of Bilge Injections 1 sizes 4 1/2 Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size 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 yes  
 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 Suctions to forepit forehold How are they protected wood covering  
 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 \_\_\_\_\_ of Stern Tube \_\_\_\_\_ Screw shaft and Propeller \_\_\_\_\_  
 Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from upper CR. platform

**BOILERS, &c.**—(Letter for record (5)) Manufacturers of Steel  
 Total Heating Surface of Boilers 1302 Is Forced Draft fitted no No. and Description of Boilers 2 no SE return tube  
 Working Pressure 176 lb. Tested by hydraulic pressure to \_\_\_\_\_ Date of test \_\_\_\_\_ No. of Certificate \_\_\_\_\_  
 Can each boiler be worked separately yes Area of fire grate in each boiler 48 No. and Description of Safety Valves to each boiler 2 direct opening Area of each valve 7.07 Pressure to which they are adjusted 175 lb. Are they fitted with easing gear yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork 30 Mean dia. of boilers 12-3 Length 10-0 Material of shell plates steel  
 Thickness 1 Range of tensile strength 29 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams single  
 long. seams double outside strap Diameter of rivet holes in long. seams 1 3/16 Pitch of rivets 8 1/16 Lap of plates or width of butt straps 11 1/2 outer  
 Per centages of strength of longitudinal joint \_\_\_\_\_ rivets 95.0 Working pressure of shell by rules 180 Size of manhole in shell 12x16  
 Size of compensating ring 24x28x1 1/4 No. and Description of Furnaces in each boiler 2 Morrison Material steel Outside diameter 48  
 Length of plain part \_\_\_\_\_ top \_\_\_\_\_ bottom 7 Thickness of plates \_\_\_\_\_ crown 9/16 Description of longitudinal joint welded No. of strengthening rings none  
 Working pressure of furnace by the rules 184 Combustion chamber plates: Material steel Thickness: Sides 5/8 Back 5/8 Top 5/8 Bottom 3/4  
 Pitch of stays to ditto: Sides 7 3/4 x 6 7/8 Back 7 3/8 x 7 1/8 Top 9 1/4 x 8 If stays are fitted with nuts or riveted heads no Working pressure by rules 180 lb.  
 Material of stays steel Diameter at smallest part 1.76 Area supported by each stay 74 Working pressure by rules 190 End plates in steam space: \_\_\_\_\_  
 Material steel Thickness 1 3/32 Pitch of stays 17 3/8 x 18 How are stays secured d. nuts & washers Working pressure by rules 183 Material of stays steel  
 Diameter at smallest part 7.07 Area supported by each stay 312 Working pressure by rules 204 Material of Front plates at bottom steel  
 Thickness 13/16 Material of Lower back plate steel Thickness 5/8 Greatest pitch of stays 15 Working pressure of plate by rules 180  
 Diameter of tubes 3 1/2 Pitch of tubes 4 3/4 Material of tube plates steel Thickness: Front 13/16 Back 13/16 Mean pitch of stays 11.9  
 Pitch across wide water spaces 14 Working pressures by rules 206 Girders to Chamber tops: Material \_\_\_\_\_ Depth and thickness of girder at centre 8 x 2-3/4 Length as per rule 27.5 Distance apart 9.25 Number and pitch of stays in each 2-8  
 Working pressure by rules 240 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 \_\_\_\_\_

Is a Report also sent on the status of the ship?

**VERTICAL DONKEY BOILER—** Manufacturers of Steel

No. \_\_\_\_\_ Description *vertical x tube wet uptake*  
 Made at *Sandefjord* By whom made *Tranæs Mek Verksköt* When made *1906* Where fixed *Stokholm*  
 Working pressure *90* tested by hydraulic pressure to \_\_\_\_\_ Date of test \_\_\_\_\_ No. of Certificate \_\_\_\_\_ Fire grate area *23<sup>sq</sup>* Description of Safety  
 Valves *direct spring* No. of Safety Valves *one* Area of each *9.6<sup>sq</sup>* Pressure to which they are adjusted *90 lb* Date of adjustment *27/2/14*  
 If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no* Dia. of donkey boiler *7'-0"* Length *11-0"*  
 Material of shell plates *S* Thickness *1/2"* Range of tensile strength \_\_\_\_\_ Descrip. of riveting long. seams *double*  
 Dia. of rivet holes *15/16"* Whether punched or drilled \_\_\_\_\_ Pitch of rivets *27/8"* Lap of plating *4 3/8"* Per centage of strength of joint \_\_\_\_\_ Rivets *81.6*  
 Working pressure of shell by rules *99* Thickness of shell crown plates *13/16"* Radius of do. *10'-9"* No. of stays to do. *six* <sup>area</sup> Dia. of stays *4.11* Plates *67.5*  
 Diameter of furnace Top *6-0"* Bottom *6-1"* Length of furnace *4-10"* Thickness of furnace plates *5/8"* Description of joint *welded*  
 Working pressure of furnace by rules *90* Thickness of furnace crown plates *13/16"* Radius of do. *9'-2"* Stayed by *six stays*  
 Diameter of uptake *20"* Thickness of uptake plates *1/2"* Thickness of water tubes *3/8"* Dates of survey \_\_\_\_\_

**SPARE GEAR.** State the articles supplied:— *Piston valve, one eccentric cheek, air pump rod, cross head brasses, bottom end brasses, safety valve escape valves & springs, set of coupling nuts and top & bottom end bolts, circulating pump rod, crank shaft, screw shaft, LP cover, (cyl) feed, bilge, air circulating pump valve, check valve, assorted iron, bolts nuts & tube*  
*The foregoing is a correct description,* *droppers* ✓ *- 2 11/16*

Manufacturer.

Dates of Survey while building  
 During progress of work in shops - - -  
 During erection on board vessel - - -  
 Total No. of visits \_\_\_\_\_

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

Is the approved plan of donkey boiler forwarded herewith \_\_\_\_\_

**Dates of Examination of principal parts—** Cylinders \_\_\_\_\_ Slides \_\_\_\_\_ Covers \_\_\_\_\_ Pistons \_\_\_\_\_ Rods \_\_\_\_\_  
 Connecting rods \_\_\_\_\_ Crank shaft \_\_\_\_\_ Thrust shaft \_\_\_\_\_ Tunnel shafts \_\_\_\_\_ Screw shaft \_\_\_\_\_ Propeller \_\_\_\_\_  
 Stern tube \_\_\_\_\_ Steam pipes tested \_\_\_\_\_ Engine and boiler seatings \_\_\_\_\_ Engines holding down bolts \_\_\_\_\_  
 Completion of pumping arrangements \_\_\_\_\_ Boilers fixed \_\_\_\_\_ Engines tried under steam \_\_\_\_\_  
 Main boiler safety valves adjusted \_\_\_\_\_ Thickness of adjusting washers \_\_\_\_\_  
 Material of Crank shaft \_\_\_\_\_ Identification Mark on Do. \_\_\_\_\_ Material of Thrust shaft \_\_\_\_\_ Identification Mark on Do. \_\_\_\_\_  
 Material of Tunnel shafts \_\_\_\_\_ Identification Marks on Do. \_\_\_\_\_ Material of Screw shafts \_\_\_\_\_ Identification Marks on Do. \_\_\_\_\_  
 Material of Steam Pipes *Copper* ✓ Test pressure *360 lb.* ✓

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

*The shafting of this vessel is good for a working pressure of 175 lb and the safety valves have been adjusted to 175 lb no more being required.*

*For examination of machinery see attached report.*

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

The amount of Entry Fee .. £ \_\_\_\_\_ : When applied for, \_\_\_\_\_  
 Special .. £ \_\_\_\_\_ : \_\_\_\_\_  
 Donkey Boiler Fee .. £ \_\_\_\_\_ : \_\_\_\_\_  
 Travelling Expenses (if any) £ \_\_\_\_\_ : \_\_\_\_\_

*Charlton*

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

Committee's Minute

TUE. MAR. 17. 1914

Assigned

*LMC 2, 14*

MACHINERY CERTIFICATE

WRITTEN 17-3-14 Copy 10-6-15



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