

REPORT ON MACHINERY.

No. 18586

Port of *Hull*

Received at London Office **FRI. DEC 28 1906**

No. in Survey held at *Hull* Date, first Survey *April 9th* Last Survey *27.12.06* 19
 Reg. Book. *35* *Buff. on the Steel Se. Sr. Leluc* (Number of Visits *51*)
 Master *Hull* Built at *Hull* By whom built *Messrs Charles C. Ltd* Tons { Gross *2538*
 Engines made at *Hull* By whom made *Messrs Charles C. Ltd* when made *1906* Net *1645*
 Boilers made at *Hull* By whom made *Messrs Charles C. Ltd.* when made *1906*
 Registered Horse Power *270* Owners *Compagnie Ind. Americaine de Vapores* Port belonging to *Valfaraiso*
 Nom. Horse Power as per Section 28 *270* Is Refrigerating Machinery fitted for cargo purposes *No* Is Electric Light fitted *Yes*

ENGINES, &c.—Description of Engines *Triple Expansion* No. of Cylinders *3* No. of Cranks *3*
 Dia. of Cylinders *23" - 37" - 61"* Length of Stroke *42"* Revs. per minute *84* Dia. of Screw shaft *12.6"* Material of *Iron*
 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 *One length* 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 *—* Length of stern bush *4'-9"*
 Dia. of Tunnel shaft *11.2"* Dia. of Crank shaft journals *11.46"* Dia. of Crank pin *11.8"* Size of Crank webs *16.2" x 7.2"* Dia. of thrust shaft under
 collars *11.2"* Dia. of screw *15'-6"* Pitch of Screw *16'-3"* No. of Blades *4* State whether moceable *Yes* Total surface *69 sq*
 No. of Feed pumps *2* Diameter of ditto *3.2"* Stroke *22"* Can one be overhauled while the other is at work *Yes*
 No. of Bilge pumps *2* Diameter of ditto *4"* Stroke *22"* Can one be overhauled while the other is at work *Yes*
 No. of Donkey Engines *3* Sizes of Pumps *8" x 8", 7.2" x 4.2", 10", 6" x 4" x 6"* No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room *five, three 3", one 3.2", one 5"* In Holds, &c. *two 3" to 2" hold, one 3.2" to 2" tank, three to*
2" tank, one 3" to 2" hold, three 3" to bilge room tank, three to E.R. tank, one 3.2" to 2" tank, one
 No. of Bilge Injections *1* sizes *5"* Connected to condenser, or to circulating pump *—* Is a separate Donkey Suction fitted in Engine room of size *Yes 3.2"*
 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 *0*
 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 *14.12.06* of Stern Tube *14.12.06* Screw shaft and Propeller *14.12.06*
 Is the Screw Shaft Tunnel watertight *Yes* Is it fitted with a watertight door *Yes* worked from *Deck*

BOILERS, &c.—(Letter for record *8*) Manufacturers of Steel *Hoelder Berg works, and Hutter Verzin, Hoeser*
 Total Heating Surface of Boilers *4382 sq* Is Forced Draft fitted *No* No. and Description of Boilers *2 Cyl. Mult.*
 Working Pressure *170 lbs* Tested by hydraulic pressure to *340 lbs* Date of test *Star 10.11.06* No. of Certificate *1525*
 Can each boiler be worked separately *Yes* Area of fire grate in each boiler *67.5 sq* No. and Description of Safety Valves to
 each boiler *Two Spring* Area of each valve *8.29 sq* Pressure to which they are adjusted *174 lbs* Are they fitted with easing gear *Yes*
 Smallest distance between boilers or uptakes and bunkers or woodwork *14.2"* Mean dia. of boilers *15'-0"* Length *11'-6"* Material of shell plates *Steel*
 Thickness *1.3/16"* Range of tensile strength *28-32 tons* Are the shell plates welded or flanged *No* Descrip. of riveting: cir. seams *L. D.*
 long. seams *D. G. S. J. C.* Diameter of rivet holes in long. seams *1.3/16"* Pitch of rivets *8"* Lap of plates or width of butt straps *17.2"*
 Per centages of strength of longitudinal joint *86.9* Working pressure of shell by rules *175 lbs* Size of manhole in shell *16" x 12"*
 Size of compensating ring *2'-7.2" x 2'-3.2" x 1.2"* No. and Description of Furnaces in each boiler *3 Deightons* Material *Steel* Outside diameter *4'-1.2"*
 Length of plain part *top 9"* Thickness of plates *bottom 9"* Description of longitudinal joint *Welded* No. of strengthening rings *—*
 Working pressure of furnace by the rules *178 lbs* Combustion chamber plates: Material *Steel* Thickness: Sides *5/8"* Back *3/4"* Top *5/8"* Bottom *5/8"*
 Pitch of stays to ditto: Sides *8 7/8" x 8 1/2"* Back *8 1/2" x 7 1/2"* Top *7 1/2" x 10"* If stays are fitted with nuts or riveted heads on Margin *Stay* Working pressure by rules *170 lbs*
 Material of stays *Steel* Diameter at smallest part *1.5"* Area supported by each stay *63.75 sq* Working pressure by rules *185 lbs* End plates in steam space:
 Material *Steel* Thickness *1.5"* Pitch of stays *20 1/4" x 16"* How are stays secured *D. R.* Working pressure by rules *170 lbs* Material of stays *Steel*
 Diameter at smallest part *2 1/8"* Area supported by each stay *32.4 sq* Working pressure by rules *190 lbs* Material of Front plates at bottom *Steel*
 Thickness *3/32"* Material of Lower back plate *Steel* Thickness *3/32"* Greatest pitch of stays *16" x 11"* Working pressure of plate by rules *272 lbs*
 Diameter of tubes *3 1/2"* Pitch of tubes *4 3/4" x 4 3/4"* Material of tube plates *Steel* Thickness: Front *27/32"* Back *27/32"* Mean pitch of stays *9 1/2"*
 Pitch across wide water spaces *13 1/2"* Working pressures by rules *170 lbs* Girders to Chamber tops: Material *Steel* Depth and
 thickness of girder at centre *10 3/4" x 1 3/4"* Length as per rule *2'-10 3/32"* Distance apart *10"* Number and pitch of stays in each *3 at 7 1/2"*
 Working pressure by rules *181 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 *—*

W241-0121

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 couple bolts and nuts, one set feed bilge pump valves, a quantity of assorted bolts and nuts, a screw shaft, valve spindle, pump rod etc.

The foregoing is a correct description,

J. F. Palethorpe Manufacturer.

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|--------------------------------|--------------------------------------|-----------|---|
| Dates of Survey while building | During progress of work in shops - - | SECRETARY | 1906. Apr 9. May 21. Jun 1. 25. July 2. 11. 17. 27. Aug 13. 16. 23. 25. Sep 6. 10. 14. 19. 20. 21. 27. Oct 3. 5. 22 |
| | During erection on board vessel - - | | Oct 23. 25. 26. 29. 30. 31. Nov. 1. 2. 6. 7. 8. 10. 12. 13. 15. 20. 22. 23. 26. 27. 30. Dec. 3. 4. 6. 10. 13. 14. 18. 27. |
| | Total No. of visits | 51 | |

Is the approved plan of main boiler forwarded herewith *No, they are sent with Hull Rpt 18444*

" " " donkey " " " "

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|--|--------------------|---|--|-------------------------------------|----------------------|
| Dates of Examination of principal parts— | Cylinders 27-9-06 | Slides 31-10-06 | Covers 31-10-06 | Pistons 22-10-06 | Rods 19-9-06 |
| Connecting rods | 19-9-06 | Crank shaft 22-10-06 | Thrust shaft 22-10-06 | Tunnel shafts 22-10-06 | Screw shaft 22-10-06 |
| Stern tube | 22-10-06 | Steam pipes tested 26-10-06 20-11-06 22-11-06 | Engine and boiler seatings 7-11-06 | Engines holding down bolts 27-11-06 | Propeller 22-10-06 |
| Completion of pumping arrangements | 13-12-06 | Boilers fixed 27-11-06 | Engines tried under steam 13-12-06 | | |
| Main boiler safety valves adjusted | 27-11-06 | Thickness of adjusting washers | 3/8", 5/16", P. Bls, 13/32", 5/16", Star Bls | | |
| Material of Crank shaft | Steel | Identification Mark on Do. | 647 AFG | | |
| Material of Thrust shaft | Steel | Identification Mark on Do. | 5887 | | |
| Material of Tunnel shafts | Steel | Identification Marks on Do. | 5967, 5968, 5990. | | |
| Material of Screw shafts | Iron | Identification Marks on Do. | 647 AFG | | |
| 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 boilers of this vessel have been constructed under special survey the materials and workmanship are good. The boilers tested by hydraulic pressure, and with the engines placed 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 record of *L.M.C. 12.06* in the Register Book.

The above machinery is similar to that fitted on the *Teno* Hull Report 18444.

Attached to this are Steel Advice notes for plates, and furnace forging notes for all shafts, connecting rods, and steel castings.

It is submitted that this vessel is eligible for THE RECORD *L.M.C. 12.06. ELEC. LIGHT.*

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|------------------------------|-------------|--------------------------|----------|
| The amount of Entry Fee.. | £ 2 | When applied for, | 18/12/06 |
| Special | £ 33 10 | When received, <i>MR</i> | 27/12/06 |
| Donkey Boiler Fee .. . | £ | | |
| Travelling Expenses (if any) | £ | | |

J. F. Palethorpe
28.12.06
James Barclay
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute TUES. JAN 1 1907

Assigned + *L.M.C. 12.06*
Elec. Light.

MACHINERY CERTIFICATE WRITTEN.

