

REPORT ON MACHINERY.

Port of *Trieste*Received at London Office *10th JUL 23 1901*No. in Survey held at *Trieste*
g. Book.Date, first Survey *4 May 1900* Last Survey *20 July 1901*

(Number of Visits)

Tons *Gross 2980*
*Net 1888*on the *Steel Twin Screw Steamer Mongolia*Master *V. Chirikoff* Built at *Trieste*By whom built *Stabilimento Tecnico Trieste* When built *1901.6*Engines made at *Trieste*
partly *Paisley*
ilers made at *Trieste*By whom made *Stabilimento Tecnico Engine Works* when made *1901.6*By whom made *Stabilimento Tecnico Engine Works* when made *1901.1*

Registered Horse Power

Owners *Chinese Eastern Railway Company* Port belonging to *Vladivostok*m. Horse Power as per Section 28 *603.34* Is Refrigerating Machinery fitted *Yes*Is Electric Light fitted *Yes*

GINES, &c.—Description of Engines

*two triple expansion*No. of Cylinders *3 to each engine* No. of Cranks *3*a. of Cylinders *24.38" x 62"* Length of Stroke *36"* Revs. per minute *127* Dia. of Screw shaft *11 1/2"* as per rule *11 1/2"* as fitted *11 1/2"* Lgth. of stern bush *62 1/2" at after end 30 1/2" at intermediate 30 1/2" at intermediate*a. of Tunnel shaft *10 1/2"* as per rule *10 1/2"* as fitted *10 1/2"* Dia. of Crank shaft journals *11 1/2"* as per rule *11 1/2"* as fitted *11 1/2"* Dia. of Crank pin *11 1/2"* Size of Crank webs *8 1/2" x 13 1/2"* Dia. of thrust shaft underlars *11 1/2"* Dia. of screw *12"* Pitch of screw *16" 0"* No. of blades *4* State whether moveable *Yes* Total surface *46.5 sq ft of one propeller 93 sq ft of both*a. of Feed pumps *2* to each engine Diameter of ditto *4 1/2"* Stroke *18"* Can one be overhauled while the other is at work *Yes*a. of Bilge pumps *2* to each engine Diameter of ditto *4 1/2"* Stroke *18"* Can one be overhauled while the other is at work *Yes*a. of Donkey Engines *11* Sizes of Pumps *see Remarks next page* No. and size of Suctions connected to both Bilge and Donkey pumps+ Boilers *6 suction of various sizes connected to all auxiliary & other pumps in Holds, &c.*Engine Room *also two suction of 8" connected to circulating pumps to use in case of emergency*a. of bilge injections *1* sizes *8"* Connected to *condenser* circulating pump *Yes* Is a separate donkey suction fitted in Engine room & size *10 1/2" x 12"*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 *Valves*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 *Yes*Are they each fitted with a discharge valve always accessible on the plating of the vessel *Yes* Are the blow off cocks fitted with gaspigot and brass covering plate *Yes*That pipes are carried through the bunkers *5 of 3" ballast & 2 of 3 1/4" bilges* How are they protected *through iron casing*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*When were stern tube, propeller, screw shaft, and all connections examined in dry dock *Is the screw shaft tunnel watertight Yes*Is it fitted with a watertight door *Yes* worked from *Running Deck*BOILERS, &c.— (Letter for record *E*) Total Heating Surface of Boilers *11062.5* Is forced draft fitted *Yes* How doneNo. and Description of Boilers *5 Single ended multitubular* Working Pressure *180 lb* Tested by hydraulic pressure to *360 lb*Date of test *5.9.12* Can each boiler be worked separately *Yes* Area of fire grate in each boiler *54* No. and Description of safety valves toeach boiler *2 Double spring* Area of each valve *9.6 sq ft* Pressure to which they are adjusted *182 lb* Are they fitted with easing gear *Yes*Smallest distance between boilers or uptakes and bunkers or woodwork *3' 6"* Mean dia. of boilers *14' 6"* Length *12' 0"* Material of shell plates *Steel*Thickness *1 1/4"* Range of tensile strength *29/32* Are they welded or flanged *neither* Descrip. of riveting: cir. seams *D.R. lap. long. seams D.R. T.R.*Diameter of rivet holes in long. seams *1 1/4"* Pitch of rivets *8 1/6"* + *4 1/2"* Lap of plates *12 1/2"* width of butt straps *12 1/2"*Percentage of strength of longitudinal joint *90%* Working pressure of shell by rules *196 lb* Size of manhole in shell *16" x 12"*Size of compensating ring *26 1/4" x 30 1/4" x 1 1/4"* No. and Description of Furnaces in each boiler *3 Deighton* Material *Steel* Outside diameter *44"*Length of plain part *top 2' 8" bottom 10' 2"* Thickness of plates *crown 3 9/16" bottom 3 1/2"* Description of longitudinal joint *Welder* No. of strengthening rings *ten*Working pressure of furnace by the rules *200* Combustion chamber plates: Material *Steel* Thickness: Sides *5/8"* Back *5/8"* Top *5/8"* Bottom *1/2"*Pitch of stays to ditto: Sides *7' 6" x 7' 48"* Back *7' 38" x 7' 48"* Top *7' 6" x 7' 48"* Stays are fitted with nuts or riveted heads *Nuts & washers* Working pressure by rules *229*Material of stays *Steel* Area at smallest part *2.35 sq ft* Area supported by each stay *55 sq ft* Working pressure by rules *241* End plates in steam space:Material *Steel* Thickness *1"* Pitch of stays *15 1/4" x 15 1/2"* How are stays secured *DN + W* Working pressure by rules *200* Material of stays *Steel*Area at smallest part *5.02 sq ft* Area supported by each stay *235 sq ft* Working pressure by rules *203* Material of Front plates at bottom *Steel*Thickness *2 1/8"* Material of Lower back plate *Steel* Thickness *2 1/8"* Greatest pitch of stays *14 9/16"* Working pressure of plate by rules *19 1/2"*Diameter of tubes *2 1/2"* Pitch of tubes *3 3/4"* Material of tube plates *Steel* Thickness: Front *3 1/2"* Back *3 1/4"* Mean pitch of stays *7' 48"*Pitch across wide water spaces *14 1/2"* Working pressures by rules *190 lb* Girders to Chamber tops: Material *Steel* Depth andThickness of girder at centre *9 1/4" x 1 1/2"* Length as per rule *32 1/2"* Distance apart *7' 6"* Number and pitch of Stays in each *two 7' 6"*Working pressure by rules *205* Superheater or Steam chest; how connected to boiler *None* 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

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

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SPARE GEAR. State the articles supplied:—1. Thrust, 1 crank, 1 propeller shaft, 1 propeller blades, 2 pair of main
frames top & bottom part, & connecting rod bottom end bolts & nuts, 1 piston rod bottom
part bolts & nuts, 1 main bearing bolts 2 sets of coupling bolts, 2 set of feed
& bilges pump valves, one set of springs for all the cylinders & high pressure
valve. Further this ship is well supplied with engine & Boiler spare ge
stores, & necessary tools.

Manufacturer.

J. J. Linderke

Is the approved plan of main boiler forwarded herewith

The machinery & Boilers of this vessel have been constructed under Special Survey and are of good material & in accordance with the Rules of this Society, Special attention was given to the workmanship which is of good description.

Engines & Boilers have been securely fitted on board & satisfactory work under steam. In my opinion it is eligible to have Record of **LMC 6.901. F.D.** noted in the Register Book.

Pumps.

No. 2. Centrifugal pumps for circulating water into the Condensers
 " 4 Weirs Duplex piston Pump for feeding Boilers $7' \times 9\frac{1}{2}" \times 21"$
 " 1 Black Vertical duplex piston pump for feeding Double B. $4\frac{1}{2}' \times 3' \times 4'$
 " 2 Black " " " " for fresh & sanitary water $4\frac{1}{2}' \times 3' \times 4'$
 " 1 Large simplex Vertical piston pump $10' \times 14" \times 12"$ for ballast
 water, bilges, condensers & fire service.
 " 1 small Black duplex piston pump $4\frac{1}{2}' \times 3' \times 4'$ for circulating
 water into the brine system of the Refrigerating machine

Appendix is the Report on Electric Light & Refrigerating machines

When applied for,

Special £ 50 : 4 : 13 July 97

Donkey Boiler Fee £ : : (When received,

Travelling Expenses (if any) £ 10 : 18

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

Committee's Minute

Assigned

FRI. AUG 16 1901

TUES. AUG 27 1901

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MACHINERY CERTIFICATE
WRITTEN