

REPORT ON MACHINERY.

No. 81859

Received at London Office WED. FEB. 9 1921

Date of writing Report *Feb 1st 1921* When handed in at Local Office *8 FEB 1921* Port of *Liverpool*

Survey held at *Liverpool & Birkenhead* Date, First Survey *Dec 13th 1920* Last Survey *Jan 24th 1921*

On the *S.S. "City of Alexandria" ex Rio Pardo* (Number of Vents *9*) Tons { Gross *4621* Net *2928*

Master *Geestmunde* By whom built *J.C. Tecklenburg A.S.* When built *1905*

Engines made at *Geestmunde* By whom made *J.C. Tecklenburg A.S.* when made *05*

Boilers made at *Geestmunde* By whom made *J.C. Tecklenburg A.S.* when made *05*

Registered Horse Power *445* Owners *Ellerman Line Ltd* Port belonging to *London*

Is Refrigerating Machinery fitted for cargo purposes *no* Is Electric Light fitted *Yes*

ENGINES, &c.—Description of Engines *Vertical Triple Expansion* No. of Cylinders *3* No. of Cranks *3*

Dia. of Cylinders *23", 39", 65 3/4"* Length of Stroke *48"* Revs. per minute *14.3* Dia. of Screw shaft *14 1/16"* Material of screw shaft *as fitted*

Is the after end of the liner made water tight *Yes* 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 *Yes*

Length of stern bush *5'9"* Dia. of Tunnel shaft *12.685* Dia. of Crank shaft journals *13.3* Dia. of Crank pin *13 3/4"* Size of Crank webs *28 1/2 x 9 1/2"* Dia. of thrust shaft under collars *13 3/4"* Dia. of screw *17.9"* Pitch of Screw *18.4"* No. of Blades *4* State whether moveable *Yes* Total surface *89.30'*

No. of Feed pumps *none* Stroke *23 5/8"* Can one be overhauled while the other is at work *Yes*

No. of Bilge pumps *Two* Diameter of ditto *4 1/2"* Stroke *23 5/8"* Can one be overhauled while the other is at work *Yes*

No. of Donkey Engines *Two* Sizes of Pumps *Series 11 1/2" x 7 1/8" x 2 1/2"* No. and size of Suctions connected to bilge and Donkey pumps *In Holds, &c. No 1 hold two, No 2 3 4 5 holds two*

Engine Room *Four* 4" Int dia. *4"* In Holds, &c. *No 1 hold two, No 2 3 4 5 holds two*

Is a separate Donkey Suction fitted in Engine room & size *Yes 5"*

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 *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 a spigot and brass covering plate *Yes*

How are they protected *lumber boards*

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*

Is the Screw Shaft Tunnel watertight *Yes* Is it fitted with a watertight door *Yes* worked from *Upper Deck*

BOILERS, &c.—(Letter for record *S*) Manufacturers of Steel *Three S.E. Multitubular*

Total Heating Surface of Boilers *5813* Is Forced Draft fitted *Yes* No. and Description of Boilers *Three S.E. Multitubular*

Working Pressure *205 lb* Tested by hydraulic pressure to *307 lb* Date of test *5/1/21* No. of Certificate *463*

Can each boiler be worked separately *Yes* Area of fire grate in each boiler *307 lb* No. and Description of Safety Valves to each boiler *Two spring loaded* Pressure to which they are adjusted *205 lb* Are they fitted with easing gear *Yes*

Smallest distance between boilers or uptakes and bunkers or woodwork *Some feet* Mean dia. of boilers *13'-0"* Length *11'-8"* Material of shell plates *Steel*

Thickness *1 9/32"* Range of tensile strength *27.9-31.7 lb* Are the shell plates welded or flanged *no* Descrip. of riveting: cir. seams *DR lap*

long. seams *4 rows D.R.* Diameter of rivet holes in long. seams *1 5/16"* Pitch of rivets *14 5/8"* Lap of plates or width of butt straps *2 1/2" (min) strap*

Per centages of strength of longitudinal joint *87 1/2* Working pressure of shell by rules *220 lb* Size of manhole in shell *12 x 16"*

Size of compensating ring *10 1/2 x 1 3/16"* No. and Description of Furnaces in each boiler *Three corrugated* Material *Steel* Outside diameter *3'-0"*

Length of plain part *29"* Thickness of plates *3 1/16"* Description of longitudinal joint *weld* No. of strengthening rings *29*

Working pressure of furnace by the rules *255 lb* Combustion chamber plates: Material *Steel* Thickness: Sides *1 1/16"* Back *1 1/16"* Top *1 1/16"* Bottom *3/32"*

Pitch of stays to ditto: Sides *7 1/8 x 7 1/8"* Back *7 1/8 x 8 1/8"* Top *7 1/8 x 7 1/8"* If stays are fitted with nuts or riveted heads *Nuts* Working pressure by rules *255 lb* End plates in steam space: Material of stays *Steel*

Material of stays *Steel* Area at smallest part *1 9/16"* Area supported by each stay *64"* Working pressure by rules *250 lb* Material of Front plates at bottom *Steel*

Material *Steel* Thickness *1"* Pitch of stays *16 x 14 7/8"* How are stays secured *Nuts riveted heads* Working pressure by rules *265 lb* Material of Front plates at bottom *Steel*

Area at smallest part *2 3/4"* Area supported by each stay *235"* Working pressure by rules *265 lb* Material of Front plates at bottom *Steel*

Thickness *1 1/16"* Material of Lower back plate *Steel* Thickness *1"* Greatest pitch of stays *1 1/16"* Working pressure of plate by rules *265 lb*

Diameter of tubes *2 3/4"* Pitch of tubes *3 1/16"* Material of tube plate *Steel* Thickness: Front *1 1/16"* Back *29/32"* Mean pitch of stays *7 7/8"*

Pitch across wide water spaces *14"* Working pressures by rules *207 lb* Girders to Chamber tops: Material *Steel* Depth and thickness of girder at centre *10 7/8 x 2 3/4"* Length as per rule *33"* Distance apart *7 7/8"* Number and pitch of stays in each *3 @ 7 7/8"*

Working pressure by rules *260 lb* Steam dome: description of joint to shell *none* % of strength of joint *-*

Diameter *-* Thickness of shell plates *-* Material *-* Description of longitudinal joint *-* Diam. of rivet holes *-*

Pitch of rivets *-* Working pressure of shell by rules *-* Crown plates *-* Thickness *-* How stayed *-*

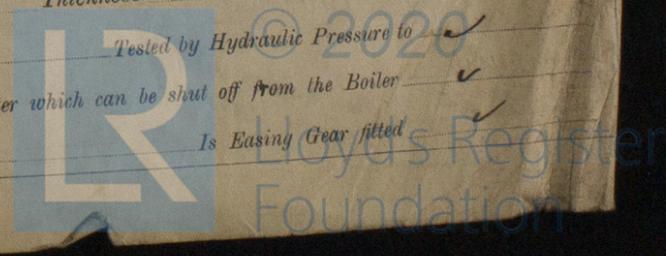
SUPERHEATER. Type *none* Date of Approval of Plan *-* Tested by Hydraulic Pressure to *-*

Date of Test *-* Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler *-*

Diameter of Safety Valve *-* Pressure to which each is adjusted *-* Is Easing Gear fitted *-*

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THE MARGIN.

N601 - 0141



IS A DONKEY BOILER FITTED? *no*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— *one screw shaft, propeller brass and two bladed set of coupling bolts, top & bottom end bolts & nuts, one set of crank pin brass, one piston rod, neck bush, air pump bucket rod & head valve seat & guards feed & bilge pump valves.*

The foregoing is a correct description,

Manufacturer.

Dates of Survey which including
 During progress of work in shops - - - *1920 Dec 13. 22. 31.*
 During erection on board vessel - - - *1921 Jan 4. 5. 12. 17. 21. 24.*
 Total No. of visits *9*

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 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
Completion of fitting sea connections Stern tube Screw shaft and propeller
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 *Steel* Test pressure *65 lbs*
Is an installation fitted for burning oil fuel *no* Is the flash point of the oil to be used over 150°F.
Have the requirements of Section 49 of the Rules been complied with
Is this machinery duplicate of a previous case *no* If so, state name of vessel

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

The Mach^y of this vessel has now been examined with a view to Classification. For particulars of Examⁿ see attached Report. The sizes of cylinders & shafting have been verified and scantling of boilers found to be in accordance with plan, and as recommended on attached Report the Mach^y is in my opinion eligible for record LMC 1-21 subject to after water end of condenser being renewed at first opportunity.

TUES. 7 JUL 1925

FRI. 23 OCT 1925

TUES. 2 MAR 1926

THURS. 8 MAR 1925

TUES. 2 JUN 1925

The amount of Entry Fee ... £ : : When applied for.
Special ... £ 30 : : 19.
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : : 15-2-21 *llb.*

J. Milton *A. P. Southwell*
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *LIVER*

Assigned

TUE. 11 MAR. 1924

TUE. SEP. 27 1921

TUE. 27 FEB. 1923

FRI. AUG. 11 1922

FRI. JUN. 29 1923

FRI. MAR. 1 1922

TUE. AUG. 21 1923

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

Lloyd's Register Foundation