

REPORT ON MACHINERY.

No. 32105

Received at London Office

Date of writing Report

10

When handed in at Local Office

4/9/1920 Port of *Bull*No. in Survey held at
Reg. Book.*Bull*

Date, First Survey

6.7/20

Last Survey

1/9/1920

2/26 on the *GEORGE HARRIS* now named *KARACHI*(Number of Visits *11*)Tons { Gross *275*Net *121*

Master

Built at *5 Shields*By whom built *Supple & Co Ltd*When built *1918-12*Engines made at *Birmingham*By whom made *Bellis & Morcom Ltd*when made *1918*Boilers made at *Bellum & Tyne*By whom made *Palmer's Shipbuilding & Iron Co Ltd*when made *1918*

Registered Horse Power

*87*Owners *The Admiralty*Port belonging to *London*

Nom. Horse Power as per Section 28

Is Refrigerating Machinery fitted for cargo purposes *no*Is Electric Light fitted *no*ENGINES, &c.—Description of Engines *Triple expansion*No. of Cylinders *3*No. of Cranks *3*Dia. of Cylinders *22", 21", 19"*Length of Stroke *26"*Revs. per minute *103*

Dia. of Screw shaft

as per rule *4.56"*

Material of

as fitted *4.56"* screw shaftIs 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 *—*

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 *—*

If two

liners are fitted, is the shaft lapped or protected between the liners *—*Length of stern bush *34"*

Dia. of Tunnel shaft

as per rule *6.57"*

Dia. of Crank shaft journals

as per rule *6.9"*Dia. of Crank pin *4 1/8"*Size of Crank webs *10 1/4" x 4 1/2"*

Dia. of thrust shaft under

collars *7 1/8"*Dia. of screw *9-6"*Pitch of Screw *11-12"*No. of Blades *4*State whether moveable *no*Total surface *35 1/2 sq ft*No. of Feed pumps *2*Diameter of ditto *2 1/2"*Stroke *12"*Can one be overhauled while the other is at work *yes*No. of Bilge pumps *2*Diameter of ditto *2 1/2"*Stroke *12"*Can one be overhauled while the other is at work *yes*No. of Donkey Engines *two + 3*SIZES OF PUMPS *6" x 3" x 6" + 6" x 4" x 6"*

No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room *one 2" for, one 2" aft & one 2" Bilge aft*In Holds, &c. *one 2" and one 2" ejector Suction*Bilge Injections *1*size *3 1/2"*Connected to condenser, or to circulating pump *no*Is a separate Donkey Suction fitted in Engine room & size *2 1/4" ejector*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*all connections with the sea direct on the skin of the ship *yes*Are they Valves or Cocks *Both*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*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*at pipes are carried through the bunkers *just water + Bilge suction*How are they protected *Wood Casing*all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times *yes*the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges *yes*the Screw Shaft Tunnel watertight *—*Is it fitted with a watertight door *—*worked from *—*BELLERS, &c.—(Letter for record *5*)Manufacturers of Steel *—*al Heating Surface of Boilers *1619 sq ft*Is Forced Draft fitted *no*No. and Description of Boilers *one single ended*Working Pressure *180 lbs*Tested by hydraulic pressure to *360 lbs*Date of test *12/7/18*No. of Certificate *—*each boiler be worked separately *—*Area of fire grate in each boiler *50 sq ft*

No. and Description of Safety Valves to

boiler *Two spring loaded*Area of each valve *4.9"*Pressure to which they are adjusted *180 lbs*Are they fitted with easing gear *yes*Least distance between boilers or uptakes and bunkers or woodwork *10"*Mean dia. of boilers *3-6"*Length *0-6"*Material of shell plates *Steel*Thickness *1/8"*Range of tensile strength *28/32 Tons*Are the shell plates welded or flanged *no*Descrip. of riveting: cir. seams *double*seams *TRD/BS*Diameter of rivet holes in long. seams *1 1/16"*Pitch of rivets *8 1/2"*Lap of plates or width of butt straps *17 3/4"*

percentages of strength of longitudinal joint

rivets *88.9*plate *85.6*Working pressure of shell by rules *185 lbs*Size of manhole in shell *16" x 12"*of compensating ring *7" x 1 1/2"*No. and Description of Furnaces in each boiler *3, plain*Material *Steel*Outside diameter *42"*

th of plain part

top *8 1/2"*bottom *do*

Thickness of plates

crown *2 1/32"*Description of longitudinal joint *welded*No. of strengthening rings *—*Working pressure of furnace by the rules *84*Combustion chamber plates: Material *Steel*Thickness: Sides *1/16"*Back *2/32"*Top *1/16"*Bottom *1"*Pitch of stays to ditto: Sides *8 1/4" x 8 1/4"*Back *9 1/2" x 8 1/2"*Top *9 1/2" x 9 1/2"*If stays are fitted with nuts or riveted heads *nuts*Working pressure by rules *85 lbs*End plates in steam space: *Sides*Material of stays *Steel*Area at smallest part *2.08 sq in*Area supported by each stay *87.5 sq in*Working pressure by rules *208 lbs*Material of stays *Steel*Material *Steel*Thickness *1 1/32"*Pitch of stays *8 1/2" x 17"*How are stays secured *ON & W*Working pressure by rules *201 lbs*Material of Front plates at bottom *Steel*Area at smallest part *6.1 sq in*Area supported by each stay *315 sq in*Working pressure by rules *201 lbs*Material of Front plates at bottom *Steel*Thickness *1/16"*Material of Lower back plate *Steel*Thickness *1 1/16"*Greatest pitch of stays *4 1/2" x 9"*Working pressure of plate by rules *217 lbs*Diameter of tubes *3 1/2"*Pitch of tubes *4 1/4" x 4 1/4"*Material of tube plates *Steel*Thickness: Front *1/16"*Back *3/4"*Pitch across wide water spaces *1 1/2"*Working pressures by rules *192 lbs*Girders to Chamber tops: Material *Steel*

Depth and

thickness of girder at centre *8 1/2" x 1 1/4"*Length as per rule *33"*Distance apart *9"*Number and pitch of stays in each *two 9 1/2"*Working pressure by rules *193 lbs*Steam dome: description of joint to shell *—*% of strength of joint *—*

Diameter

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet holes

How stayed

Pitch of rivets

Working pressure of shell by rules

Crown plates

Thickness

Is Easing Gear fitted

SUPERHEATER. Type

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

Foundation

015273-015283-0268

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied: Two top end bolts and nuts, two bottom end bolts and nuts, two main bearing bolts and nuts, one set of coupling bolts and nuts, six joint ring set pins, one set of feed and bilge pump valves and seats, one set of donkey pump valves, two escape valve springs, one safety valve spring, and a quantity of bolts and nuts, and iron and brass rod of various sizes, also 3 condenser tubes. A further list of spare gear which has been ordered from the Builders, has not come forward yet and shall be sent out to India by the next vessel, to be placed on board the "KARACHI". The spares are, one pair of Bottom end, top end, and link presses, one air pump rod, one set of check valves, 6 cylinder cover studs, 6 joint ring bolts. The foregoing is a correct description, 2 don't boiler tubes, 3 don't condenser tubes, one cylinder escape valve spring, and one set of safety valve springs.

Manufacturer.

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

6/7/20 to 1/9/20

Is the approved plan of main boiler forwarded herewith

Yes

Dates of Examination of principal parts—Cylinders 27/8/20 Slides 27/8/20 Covers 27/8/20 Pistons 27/8/20 Rods 27/8/20
Connecting rods 27/8/20 Crank shaft 27/8/20 Thrust shaft 27/8/20 Tunnel shafts — Screw shaft — Propeller 1/9/20
Stern tube — Steam pipes tested — Engine and boiler seatings — Engines holding down bolts —

Completion of pumping arrangements 1/9/20 Boilers fixed — Engines tried under steam 1/9/20

Completion of fitting sea connections — Stern tube — Screw shaft and propeller —

Main boiler safety valves adjusted 1/9/20 Thickness of adjusting washers Port 5/16", Star 7/16"

Material of Crank shaft — Identification Mark on Do. 3617 Material of Thrust shaft — Identification Mark on Do. 11/9/17

Material of Tunnel shafts — Identification Marks on Do. — Material of Screw shafts — Identification Marks on Do. 287

Material of Steam Pipes 5.0 Copper Test pressure

Is an installation fitted for burning oil fuel — 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 Castle, Type

General Remarks (State quality of workmanship, opinions as to class, &c. (See Secretary's letter 17/29/20))

The machinery and Boiler of this vessel, has been constructed under survey of The British Corporation, to plans and specifications which were mutually agreed to by this Society and The British Corporation. (Now done) The Cylinders, pistons, slides, crank and thrust shafting, all pumps, Condenser, arrangement of tiller pipes, cocks and valves, propeller, stern tube and sea connection, etc., examined and found satisfactory. The boiler and its mounting examined throughout and found in good working condition. The scantlings of the boiler have been verified and found as per plan. The material and workmanship of the machinery and boiler are good. The distance between top of boiler and top of after bearing of screw shaft is 3/16". The main and auxiliary machinery tried under working conditions and found satisfactory. The new owner of this vessel is a M. Insurance Co. This vessel's machinery is in my opinion to have the notation of LMC 9-20.

The amount of Entry Fee ... £ ...
Special ... £ ...
Donkey Boiler Fee ... £ ...
Travelling Expenses (if any) £ ...

Committee's Minute

Assigned

John Robertson
Engineer Surveyor to Lloyd's Register of Shipping.

FUE 6 DEC. 1921

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Lloyd's Register
Foundation