

REPORT ON MACHINERY.

Received at London Office FEBRUARY 9-1917

Date of writing Report 27 February 1917. When handed in at Local Office

Port of Amsterdam

No. in Survey held at Amsterdam

Date, First Survey 9 Dec 1915 Last Survey 14 February 1917

53 m. On the steel screw steamer *Bermuda*

(Number of Visits) 52

Tons Gross 870. Net 409.

Master *D. Jonker* Built at *Amsterdam* By whom built *N.V. Kerschure & Co Scheepwerf* When built 1914.

Engines made at *Ams* By whom made *N.V. Kerschure & Co. Scheepwerf* when made 1914.

Boilers made at *Ams* By whom made *N.V. Kerschure & Co. Machinesfabriek* when made 1914.

Registered Horse Power 113. Owners *N.V. Nederlandsche Maatschappij* Port belonging to *Rotterdam*

Nom. Horse Power as per Section 28 113. Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

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

Dia. of Cylinders *380 x 635 x 1015 mm* Length of Stroke *685 mm* Revs. per minute *120* Dia. of Screw shaft as per rule *225.5 mm* Material of screw shaft *ingot steel*

Is the screw shaft fitted with a continuous liner the whole length of the stern tube *two liners* 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 *940 mm*

Dia. of Tunnel shaft as per rule *189 mm* Dia. of Crank shaft journals as per rule *198.5 mm* Dia. of Crank pin *200 mm* Size of Crank webs *380 x 120* Dia. of thrust shaft under collars *200 mm* Dia. of screw *3200 mm* Pitch of Screw *3500 mm* No. of Blades *four* State whether moveable Total surface *3.99 M²*

No. of Feed pumps *two* Diameter of ditto *57 mm* Stroke *457 mm* Can one be overhauled while the other is at work No. of Bilge pumps *two* Diameter of ditto *57 mm* Stroke *457 mm* Can one be overhauled while the other is at work

No. of Donkey Engines *two* Sizes of Pumps *duplex 6 x 7 1/2 x 6 Ballast* No. and size of Suctions connected to both Bilge and Donkey pumps *one 6 x 4 x 6 Donkey pump*

In Engine Room *three 2 1/4"* In Holds, &c. *four 2 1/2"*

No. of Bilge Injections *one* sizes *3 7/8"* Connected to ~~condenser~~ to circulating pump Is a separate Donkey Suction fitted in Engine room of size *Yes 2 1/4"*

Are all the bilge suction pipes fitted with roses Are the roses in Engine room always accessible Are the sluices on Engine room bulkheads always accessible

Are all connections with the sea direct on the skin of the ship Are they Valves or Cocks *Both*

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates 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 Are the Blow Off Cocks fitted with a spigot and brass covering plate

What pipes are carried through the bunkers *hold bilge pipes* How are they protected *boxed in with wood and sheathed with iron*

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges

Is the Screw Shaft Tunnel watertight Is it fitted with a watertight door worked from

BOILERS, &c.—(Letter for record *(S)*) Manufacturers of Steel *Benschel & Sohn, alt Zechehutte Wittingen*

Total Heating Surface of Boilers *190 M²* Forced Draft fitted No. and Description of Boilers *two Single ended Boilers*

Working Pressure *12.65 kg 180 lbs* Tested by hydraulic pressure to *360 lbs* Date of test *9 Nov 1916* No. of Certificate *238-239*

Can each boiler be worked separately Area of fire grate in each boiler *3.80 M² 41.59* No. and Description of Safety Valves to each boiler *two direct spring* Area of each valve *3.75 sq inch* Pressure to which they are adjusted *180 lbs* Are they fitted with easing gear

Smallest distance between boilers or uptakes and bunkers or woodwork *23.75 cm* Mean dia. of boilers *3248* Length *3125* Material of shell plates *steel*

Thickness *24 mm* Range of tensile strength *41 to 50 kg* Are the shell plates welded or flanged *plain* Descrip. of riveting: cir. seams *double riveted*

long. seams *double straps* Diameter of rivet holes in long. seams *25 mm* Pitch of rivets *180 mm* Lap of plates or width of butt straps *420 mm*

Per centages of strength of longitudinal joint rivets *84.5 %* Working pressure of shell by rules *13.4 kg* Size of manhole in shell *300 x 400 mm*

Size of compensating ring *150 x 24 mm* No. and Description of Furnaces in each boiler *two Morrison* Material *steel* Outside diameter *1050 mm*

Length of plain part top *13.5 mm* Thickness of plates crown *13.5 mm* Description of longitudinal joint *Welded* No. of strengthening rings

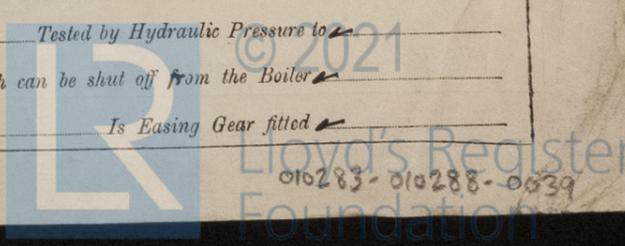
Working pressure of furnace by the rules *13.9 kg* Combustion chamber plates: Material *steel* Thickness: Sides *16 mm* Back *14 mm* Top *16 mm* Bottom *22 mm*

Pitch of stays to ditto: Sides *180 x 105* Back *180 x 180* Top *205 x 180* If stays are fitted with nuts or riveted heads *riveted heads* Working pressure by rules *12.5 & 16 kg*

Water Capacity. Tons. 40 34

Visits 22

2ml.16. T.



IS A DONKEY BOILER FITTED?

No.

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—Two Connecting rod top & bottom ends bolts & nuts, two ditto main bearings, One set of Coupling, One set feed & bilge pumps valves, 10 Condenser tubes, 6 junkring bolts, One set of air circulating & donkey pumps valves, One main & one donkey feed check valve, One safety valve & two escape valve springs, One set of piston rings, One propeller, A quantity of bolts & nuts assorted & iron of various sizes.

The foregoing is a correct description,

VERSCHURE & Co's SCHEEPSWERF EN MACHINEFABRIEK

Manufacturer.

Dates of Survey while building: During progress of work in shops: 9 Dec 1915, 5 May, 3, 5, 7, 24 July, 3, 15, 18, 19, 24, 29 August, 6, 12, 25, 27 Sept, 3, 5, 8, 11, 17, 24, 30 Oct, 3, 3, 7, 9, 13, 14, 16, 28, 24, 27 Nov, 2-8 Dec, 15, 18, 20-28 December 1916, 9, 15, 15, 18, 19, 22, 31 Jan, 4, 8, 9, 10, 13, 14 Feb 1917. Total No. of visits: 52

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 5, 3, 15, 25; Slides 18-29, 25, 11, 17; Covers 11-17, 9; Pistons 11-17, 9, 7, 9; Rods 11-17, 9, 9; Connecting rods 17, 9, 9; Crank shaft 11, 17, 24, 27; Thrust shaft 17, 7, 13, 27; Tunnel shafts 10, 11; Screw shaft 17, 7, 13, 27, 2; Propeller 17, 2; Stern tube 13, 2; Steam pipes tested 9 January; Engine and boiler seatings 2-6 Dec; Engines holding down bolts 18 Jan; Completion of pumping arrangements 7 Feb; Boilers fixed 19 Jan; Engines tried under steam 14 February; Completion of fitting sea connections 2 Dec; Stern tube 2 Dec; Screw shaft and propeller 2 Dec; Main boiler safety valves adjusted 13 Feb; Thickness of adjusting washers SB 10-12 PS 9-10.5

Material of Crank shaft: S.M. Ann Ingot Steel; Identification Mark on Do. 142.J.B.58.117; Material of Thrust shaft: S.M. Ann Ingot Steel; Identification Mark on Do. 143.J.B.58.217

Material of Tunnel shafts: S.M. Ann Ingot Steel; Identification Marks on Do. 144.J.B.58.1-17; Material of Screw shafts: S.M. Ann Ingot Steel; Identification Marks on Do. 144.J.B.58.1-17

Material of Steam Pipes: Steel; Test pressure 540 lbs per sq inch; Is an installation fitted for burning oil fuel? Yes; Is the flash point of the oil to be used over 150° F.? Yes

Have the requirements of Section 49 of the Rules been complied with? Yes

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.)

This vessel's machinery & boilers have been constructed in accordance with the Society's rules and approved plans herewith returned to London Office. The material used in the construction of wood ductile quality and duly tested as required and the workmanship is good. Castings are sound, all cylinders, Condenser and steam & feed pipes tested under hydraulic pressure found tight in every respect.

Main boiler tested to 360 lbs per sq inch found tight and no settling whatever. Examined engine & boilers under steam trials found same working satisfactorily and pumps drawing from all compartments, auxiliaries ditto.

In deviation with the approved plans a screw shaft has been fitted with two liners.

I am of opinion that this vessel is eligible to be recorded in the Society's Register Book LMC-2.1917. It is submitted that this vessel is eligible for THE RECORD. + LMC217

Table with 4 columns: Fee type, Amount, When applied for, When received. Includes Entry Fee (\$24), Special (\$203), Donkey Boiler Fee (£), Travelling Expenses (\$12).

Signature of J.W.D. 9/3/17, Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 13 MAR. 1917. Assigned + L.M.C. 2.17

Certificate (if required) to be sent to the Surveyors...

