

# REPORT ON MACHINERY.

No. 1404

THU. 21 AUG. 1919

REC'D NEW YORK July 23 1919.

Received at London Office

Date of writing Report

19

When handed in at Local Office

19

Port of Montreal.

No. in Survey held at *Lachine + Three Rivers*

Date, First Survey *Jan. 29. 1918*

Last Survey *July 3. 1919.*

Reg. Book. on the *ENGINE NO 18 for I.M.B. S/S "WAR MINGAN"*

(Number of Visits)

Gross *2216*

Net *1329.*

Master *R. Smith*

Built at *Three Rivers, Q.* By whom built *Kirkwood & Son*

When built *1918*

Engines made at *Lachine*

By whom made *Dominion Bridge Co Ltd.*

when made *1918.*

Boilers made at *St. Catharines Ont.*

By whom made *Eng & Machine Co of Canada Ltd.*

when made *1918*

Registered Horse Power *146.83*

Owners *British Ministry of Shipping.*

Port belonging to

Vol. Horse Power as per Section 28 *318.322.*

Is Refrigerating Machinery fitted for cargo purposes *no.*

Is Electric Light fitted *Yes.*

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

Dia. of Cylinders *20"-33"-54"* Length of Stroke *40"* Revs. per minute *70* Dia. of Screw shaft as per rule *11.74"* Material of screw shaft *Steel*

Is the screw shaft fitted with a continuous liner the whole length of the stern tube *no 3 liners overlapped & soldered at joints* Is the after end of the liner made water tight *Yes.*

If the liner is in more than one length are the joints burned *Soldered* 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.*

If two liners are fitted, is the shaft lapped or protected between the liners *Yes.* Length of stern bush *4'-1"*

Dia. of Tunnel shaft as per rule *10.79"* Dia. of Crank shaft journals as per rule *10.9"* Dia. of Crank pin *11 1/8"* Size of Crank webs *3'-5"x7"* Dia. of thrust shaft under collars *1 1/2"* Dia. of screw *14-6* Pitch of Screw *15'-3"* No. of Blades *4.* State whether moveable *no.* Total surface *66.4 Sqft.*

No. of Feed pumps *2.* Diameter of ditto *3 1/2"* Stroke *20"* Can one be overhauled while the other is at work *Yes.*

No. of Bilge pumps *2.* Diameter of ditto *3 1/2"* Stroke *20"* Can one be overhauled while the other is at work *Yes.*

No. of Donkey Engines *4* Sizes of Pumps *6x4x6 - 7 1/2x8 1/2x10 - 10x6x12 - 7 1/2x12* No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room *2-3" (1+5)* In Holds, &c. *No. 1 Hold 1 1/2" 5-2 1/2"; No. 2 Hold 1-2 1/2"; C-3; 5-2 1/2"*

Tunnel well *3"*

No. of Bilge Injections *1* sizes *6"* Connected to condenser, or to circulating pump *no* Is a separate Donkey Suction fitted in Engine room & size *Yes 6"*

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 *None*

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 *below*

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 *Exhaust steam from firecastle steam heat.* How are they protected *Asbestos lagged with wood 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*

Is the Screw Shaft Tunnel watertight *No* Is it fitted with a watertight door *Yes* worked from *E. R. lower platform*

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

Total Heating Surface of Boilers *5280 Sqft* Is Forced Draft fitted *Yes.* No. and Description of Boiler *Two Horizontal Water Tube.*

Working Pressure *185 lbs.* Tested by hydraulic pressure to Date of test No. of Certificate

Can each boiler be worked separately Area of fire grate in each boiler No. and Description of Safety Valves to each boiler

Area of each valve Pressure to which they are adjusted Are they fitted with easing gear

Smallest distance between boilers or uptakes and bunkers or woodwork Mean dia. of boilers Length Material of shell plates

Thickness Range of tensile strength Are the shell plates welded or flanged Descrip. of riveting: cir. seams

Longitud. seams Diameter of rivet holes in long. seams Pitch of rivets Lap of plates or width of butt straps

Percentages of strength of longitudinal joint rivets. Working pressure of shell by rules Size of manhole in shell

Use of compensating ring No. and Description of Furnaces in each boiler Material Outside diameter

Length of plain part top Thickness of plates crown Description of longitudinal joint No. of strengthening rings

Working pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Back Top Bottom

Pitch of stays to ditto: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules

Material of stays Area at smallest part Area supported by each stay Working pressure by rules End plates in steam space:

Material Thickness Pitch of stays How are stays secured Working pressure by rules Material of stays

Area at smallest part Area supported by each stay Working pressure by rules Material of Front plates at bottom

Thickness Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules.

Diameter of tubes Pitch of tubes Material of tube plates Thickness: Front Back Mean pitch of stays

Thickness across wide water spaces Working pressures by rules Girders to Chamber tops: Material Depth and

Thickness of girder at centre Length as per rule Distance apart Number and pitch of stays in each

Working pressure by rules 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

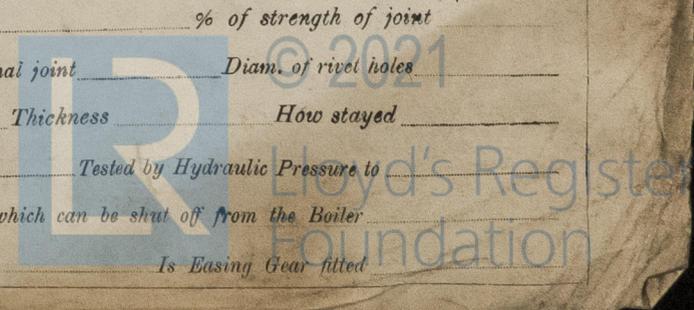
Pitch of rivets Working pressure of shell by rules Crown plates Thickness How stayed

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

2200-2651M



IS A DONKEY BOILER FITTED? *No.*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— 4 Connecting rod top end bolts & nuts. 2 Connecting rod bottom end bolts & nuts. 2 Main bearing bolts & nuts. 1 Set of coupling bolts & nuts. 1 Set of feed & bilge pump valves. 3 Sets of piston rings (2 for each piston). 1 Spare C.S. Propeller. 25 Condenser tubes, 5 condenser ferrules & packing. 1 Set of air & circulating pump valves. A quantity of assorted bolts & nuts & iron rods of various sizes.

The foregoing is a correct description,  
**DOMINION BRIDGE CO. LIMITED**

*A. Johnson W.E.*

Manufacturer.

Dates of Survey while building: During progress of work in shops - Jan 29 Feb 1, 4, 10, 16, 20 Mar 5, 9, 25. Apr 1, 5, 8, 19, 25. May 4, 15, 21, 28, 31. June 6, 8, 18, 28. July 3, 9, 10, 13, 16, 18, 19, 22. During erection on board vessel - 1918. Oct. 31. Nov 1, 11, 13, 30. Dec 9, 10, 18, 19, 19. Feb 6, 19, 26. Mar 3. May 5, 16, 26, 27. Jun 2, 9, 12, 20, 23, 30. July 2, 3. Total No. of visits 63.

Is the approved plan of main boiler forwarded herewith *No*

Dates of Examination of principal parts—Cylinders *31-5-18* Slides *13-7-18* Covers *21-6-18* Pistons *13-7-18* Rods *13-7-18* Connecting rods *13-7-18* Crank shaft *8-6-18* Thrust shaft *28-5-18* Tunnel shafts *31-5-18* Screw shaft *18-6-18* Propeller *18-6-18* Stern tube *28-6-18* Steam pipes tested *13-11-18* Engine and boiler seatings *6-8-18* Engines holding down bolts *12-11-18* Completion of pumping arrangements *20-6-19* Boilers fixed *16-10-18* Engines tried under steam *20-6-19* Completion of fitting sea connections *6-8-18* Stern tube *27-6-18* Screw shaft and propeller *12-9-18* Main boiler safety valves adjusted *20-6-19* Thickness of adjusting washers *PF 7/16" FA 1/4" ; SF 3/8" SA 7/16"* Material of Crank shaft *Steel* Identification Mark on Do. *W.E.S.* Material of Thrust shaft *Steel* Identification Mark on Do. *T.M.* Material of Tunnel shafts *Steel* Identification Marks on Do. *F.W.T.* Material of Screw shafts *Steel* Identification Marks on Do. *T.M.* Material of Steam Pipes *S.D. Steel* Test pressure *600 lbs per sq in*

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 *Yes.* If so, state name of vessel *WAR. Mohank - Senca - Greece - Malani - Anson - Eric*

General Remarks (State quality of workmanship, opinions as to class, &c. *These engines have been built under special survey. The materials and workmanship are satisfactory. The engines have been satisfactorily fitted in the vessel, tested under working conditions full ahead and full astern, the auxiliaries have been tried out. Upon examination after a 6 hour trial a groove was discovered running vertically the working length of the Sub. Engine Cylinder about 3/32" deep and 1/4" to 3/8" wide. In our opinion the engines are eligible to be classed T-L.M.C. in the Register Book subject the S. Cylinder being retored at an early convenient opportunity.*

It is submitted that this vessel is eligible for **THE RECORD. + LMC 7. 19. F.D.**  
**2 Watertube Boilers.**  
*Subject to the screw shaft being specially examined at joints of hub before the end of July 1921.*  
*Subject to the Watertube boilers being surveyed Annually.*

The amount of Entry Fee ... £ 15.00  
Special ... £ 61.00  
Donkey Boiler Fee ... £ 61.00  
Travelling Expenses (if any) £ 5.60  
When applied for, *9th Aug 1918*  
When received, *July 9. 1919*  
*21st April 1918*  
*29/10/1918*  
**J. Robinson**  
**N. J. Aderson**  
Engineer Surveyors to Lloyd's Register of Shipping.  
Committee's Minute  
Assigned  
**MACHINERY CERTIFICATE**  
**20.10.19**  
**20.12.19**  
**L.M.C. 7. 19**  
**TUE 30 SEP 1919**  
**FRI 2 - JAN 1920**