

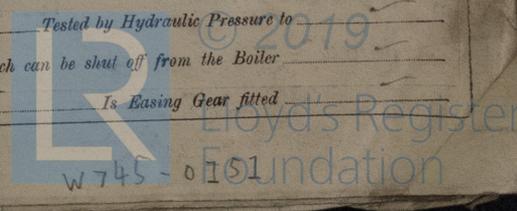
# REPORT ON MACHINERY.

of writing Report *Nov 30<sup>th</sup> 18* When handed in at Local Office *Nov 30<sup>th</sup> 18* Port of *Vancouver B.C.*  
 in Survey held at *Victoria B.C.* Date, First Survey *Feb 15<sup>th</sup> 18* Last Survey *Nov 26<sup>th</sup> 1918*  
 Book *None* (Number of Visits) *2318-61*  
 on the *Single Screw Wood Steamship "La Carco"* Tons *1424.7*  
 Master *E. Mann* Built at *Vancouver* By whom built *Western Canada Shipyard* When built *1918*  
 Engines made at *Frank* By whom made *Canadian Allic Chalmers* when made *1918*  
 Makers made at *None* By whom made *No Report Received* when made *None*  
 Registered Horse Power *1200* Owners *J. Hardie & Co (Cousins)* Port belonging to *Vancouver B.C.*  
 Net Horse Power as per Section 28 *322* Is Refrigerating Machinery fitted for cargo purposes *No* Is Electric Light fitted *Yes*

**ENGINES, &c.**—Description of Engines *Wald Triple Expansion* No. of Cylinders *3* No. of Cranks *3*  
 of Cylinders *20" x 33" x 54"* Length of Stroke *40"* Revs. per minute *78* Dia. of Screw shaft *11.7* Material of screw shaft *SA Steel*  
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube *No* Is the after end of the liner made water tight  
 Is the propeller boss *Yes* If the liner is in more than one length are the joints burned *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* If two  
 shafts are fitted, is the shaft lapped or protected between the liners *Lapped* Length of stern bush *4"-1"*  
 as per rule *10.59* Dia. of Crank shaft journals *10.92* Dia. of Crank pin *11.8* Size of Crank webs *6.5" x 2.1"* Dia. of thrust shaft under  
 as fitted *10.5* as fitted *11.8* as fitted *11.8* as fitted *11.8* State whether moceable *No* Total surface *66.4 sq ft*  
 of Feed pumps *2* Diameter of ditto *3.5* Stroke *20"* Can one be overhauled while the other is at work *Yes*  
 of Bilge pumps *2* Diameter of ditto *3.5* Stroke *20"* Can one be overhauled while the other is at work *Yes*  
 of Donkey Engines *3* Sizes of Pumps *7.5 x 9 x 10 - 6 x 4 x 6 - 10 x 6 x 12* No. and size of Suctions connected to both Bilge and Donkey pumps  
 Engine Room *3 @ 3" 1 @ 6"* In Holds, &c. *8 @ 3" 2 @ 2.5"*  
 of Bilge Injections *1* size *6"* Connected to condenser, or to circulating pump *Jump* Is a separate Donkey Suction fitted in Engine room & size *3"*  
 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*  
 all connections with the sea direct on the skin of the ship *Yes* Are they Valves or Cocks *Both Valves & Cocks*  
 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 *No*  
 at pipes are carried through the bunkers *Bilge Pipe Lines* How are they protected *Iron & Wood Sheathing*  
 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 *Yes* Is it fitted with a watertight door *Yes* worked from *Top Engine Platform*

**BOILERS, &c.**—(Letter for record) Manufacturers of Steel  
 Total Heating Surface of Boilers *5280 sq ft* Is Forced Draft fitted *Yes* No. and Description of Boilers *Two Standard Water Tube*  
 Working Pressure *185 lbs* Tested by hydraulic pressure to *280 lbs* Date of test *Oct 21<sup>st</sup> 1918* No. of Certificate *None*  
 Can each boiler be worked separately *Yes* Area of fire grate in each boiler *60 sq ft* No. and Description of Safety Valves to  
 on each boiler *Two Main Safety Valves* Area of each valve *8.29 sq ft* Pressure to which they are adjusted *185 lbs* Are they fitted with easing gear *Yes*  
 Smallest distance between boilers or uptakes and bunkers or woodwork *12"* Mean dia. of boilers *18 1/2"* Length of shell plates *30'-9"* Material of shell plates *SA Steel*  
 Thickness of shell plates *3/16"* Range of tensile strength *26-30* Are the shell plates welded or flanged *No* Descrip. of riveting: cir. seams *Single*  
 Longitudinal seams *Double* Diameter of rivet holes in long. seams *7/8"* Pitch of rivets *2.5"* Lap of plates *width of butt straps* *4 1/2"*  
 Percentages of strength of longitudinal joint *79.9* Working pressure of shell by rules *218* Size of manhole in shell *12 x 16"*  
 Diameter of compensating ring *None* No. and Description of Furnaces in each boiler *None* Material *None* Outside diameter *None*  
 Length of plain part *None* Thickness of plates *None* Description of longitudinal joint *None* No. of strengthening rings *None*  
 Working pressure of furnace by the rules *None* Combustion chamber plates: Material *None* Thickness: Sides *None* Back *None* Top *None* Bottom *None*  
 Pitch of stays to ditto: Sides *None* Back *None* Top *None* If stays are fitted with nuts or riveted heads *None* Working pressure by rules *None*  
 Material of stays *None* Area at smallest part *None* Area supported by each stay *None* Working pressure by rules *None* End plates in steam space: *None*  
 Material *None* Thickness *None* Pitch of stays *None* How are stays secured *Ends Diked* Working pressure by rules *None* Material of Front plates at bottom *None*  
 Thickness *None* Material of Lower back plate *None* Thickness *None* Greatest pitch of stays *None* Working pressure of plate by rules *None*  
 Diameter of tubes *2"* Pitch of tubes *3 1/2" x 2 3/4"* Material of tube plates *None* Thickness: *None* Mean pitch of stays *None*  
 Pitch across wide water spaces *None* Working pressures by rules *None* Girders to Chamber tops: Material *None* Depth and  
 thickness of girder at centre *6 1/2" x 1 1/2"* Length as per rule *None* Distance apart *6"* Number and pitch of stays in each *4 @ 6"*  
 Working pressure by rules *None* Steam dome: description of joint to shell *Flange of nozzle, 1/2" dia. 1/2" dia. 1/2" dia.* % of strength of joint *None*  
 Diameter *2 1/2"* Thickness of shell plates *1/16 & 1/8"* Material *None* Description of longitudinal joint *Cop. Rivet* Diam. of rivet holes *3/16"*  
 Pitch of rivets *2.5* Working pressure of shell by rules *255* Crown plates *None* Thickness *None* How stayed *None*

**SUPERHEATER.** Type *None* Date of Approval of Plan *None* Tested by Hydraulic Pressure to *None*  
 Date of Test *None* Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler *None*  
 Diameter of Safety Valve *None* Pressure to which each is adjusted *None* Is Easing Gear fitted *None*



IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied: - 2 Connecting Rod Top End Bolts and Nuts. 2 Connecting Rod Bottom End Bolts and Nuts. 2 Main Bearing Bolts and Nuts. 1 Set of Coupling Bolts and Nuts. 1 Set of Feed Pump Valves. 1 Set of Bilge Pump Valves. 1 Set of Piston Rings for each Cylinder. 1 Set of Air Pump Valves. 1 Set of Calculating Pump Valves. 1 C.I. Propeller.

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building: During progress of work in shops -- Feb 15<sup>th</sup> March 4<sup>th</sup> May 3, 30 June 3, 10, 26 July 1<sup>st</sup> Aug 25, 31<sup>st</sup> Sep 6, 11 Oct 16, 21, 30 Nov 7, 12, 23, 27  
During erection on board vessel ---  
Total No. of visits 22

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders June 3<sup>rd</sup> Slides June 3<sup>rd</sup> Covers June 3<sup>rd</sup> Pistons June 3<sup>rd</sup> Rods June 3<sup>rd</sup> Connecting rods June 3<sup>rd</sup> Crank shaft June 3<sup>rd</sup> Thrust shaft July 4<sup>th</sup> Tunnel shafts July 4<sup>th</sup> Screw shaft June 26<sup>th</sup> Propeller July 4<sup>th</sup> Stern tube June 10<sup>th</sup> Steam pipes tested Nov 10 & 12<sup>th</sup> Engine and boiler seatings Aug 25<sup>th</sup> Engines holding down bolts Aug 3<sup>rd</sup> Completion of pumping arrangements Oct 30<sup>th</sup> 18 Boilers fixed Sept 11<sup>th</sup> 18 Engines tried under steam Nov 12<sup>th</sup> 1918 Completion of fitting sea connections July 4<sup>th</sup> 18 Stern tube June 26<sup>th</sup> 18 Screw shaft and propeller July 4<sup>th</sup> Main boiler safety valves adjusted Nov 12<sup>th</sup> 1918 Thickness of adjusting washers Port Boiler 1 5/32" 1 1/16" Star Boiler 1 1/16" 1 1/16" Material of Crank shaft O.N.S. Identification Mark on Do. 5-2-18 R.C.B. 336 Material of Thrust shaft O.N.S. Identification Mark on Do. 5-2-18 337 Material of Tunnel shafts O.N.S. Identification Marks on Do. 5-2-18 R.C.B. Material of Screw shafts O.N.S. Identification Marks on Do. 13-2-18 Material of Steam Pipes Steel Test pressure 560 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 yes If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c. The following Elements Comprise to

Boilers of this Vessel				S.P.A. HEADER			
192	192	193	193	193	193	193	193
LT 370 40	LT 370 40	LT 370 40	LT 370 40	LT 370 40	LT 370 40	LT 370 40	LT 370 40
21-6-18 P.M.C.	21-6-18 P.M.C.	21-6-18 P.M.C.	21-6-18 P.M.C.	21-6-18 P.M.C.	21-6-18 P.M.C.	21-6-18 P.M.C.	21-6-18 P.M.C.

The Engines and Boilers have been built and installed under special survey, and in accordance with the approved plan together with auxiliary piping Manways Fittings and Sea Connections. Donkey Pump and Connections found Satisfactory. The Materials and Workmanship are both of Good Quality. On Completion the Machinery was tried under steam and found Satisfactory. The Machinery and Boilers are eligible in my opinion to have to Record L.M.C 11-18 B.S 11-18 made in the Register Book in the Case of this Vessel.

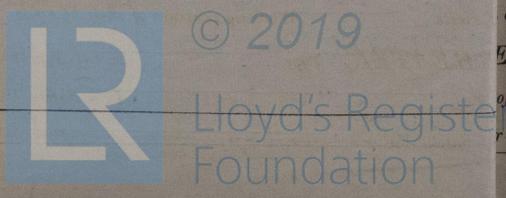
The amount of Entry Fee ... £ 60 : : When applied for, Special Survey Fee ... £ 50 : : 19. Donkey Boiler Fee ... £ 10 : : Travelling Expenses (if any) NEW YORK ... £ 26 : : 27/3/19

James Purdock & C. Locke, Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 11 FEB. 1919 Assigned

TUE. MAY. 4 1920

TUE. APR. 27 1920



The Surveyors are requested not to write on or below the space for Committee's Minute.