

REPORT ON MACHINERY.

Received at London Office

Date of writing Report **11-7-19** 19 **19** When handed in at Local Office **19** Port of **Port Arthur Ontario**

No. in Survey held at **Port Arthur Ontario** Date, First Survey **Dec. 23-1918** Last Survey **Aug. 5-1919** 19
Reg. Book. (Number of Visits)

on the **Steel S. Se. Steamer "Canadian Sailer" Bulkfreighter**

Tons { Gross **2264**
Net **1341.73**

Master **Capt. Larmour** Built at **Port Arthur Ont.** By whom built **Port Arthur Shipbuilding Co.** When built **1919**

Engines made at **Port Arthur Ontario** By whom made **Port Arthur Shipbuilding Co.** when made **1919**

Boilers made at **Port Arthur Ontario** By whom made **Port Arthur Shipbuilding Co.** when made **1919**

Registered Horse Power **1283** Owners **Canadian Government** Port belonging to **Montreal Que.**

Nom. Horse Power as per Section 28 **264 265** Is Refrigerating Machinery fitted for cargo purposes **No** Is Electric Light fitted **Yes**

ENGINES, &c.—Description of Engines **Triple Expansion** No. of Cylinders **Three** No. of Cranks **Three**
 Dia. of Cylinders **20 1/2 x 34 1/2 56"** Length of Stroke **40** Revs. per minute **88** Dia. of Screw shaft as per rule **11.96** Material of screw shaft **Steel 0. M**
 Is 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 **Brazed** 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 **Fit** If two liners are fitted, is the shaft lapped or protected between the liners **Lapped and brazed** Length of stern bush **3' 10 1/2"**
 Dia. of Tunnel shaft as per rule **10.69** as fitted **10.75** Dia. of Crank shaft journals as per rule **11.375 22** as fitted **11.5** Dia. of Crank pin **11.5** Size of Crank webs **7 1/2" x 22** Dia. of thrust shaft under collars **12"** Dia. of screw **14.75** Pitch of Screw **14.5** No. of Blades **4** State whether moveable **No** Total surface **70.8**
 No. of Feed pumps **Three** Diameter of ditto **9 1/2"** Stroke **15"** Can one be overhauled while the other is at work **Yes**
 No. of Bilge pumps **Two** Diameter of ditto **3 1/2"** Stroke **20"** Can one be overhauled while the other is at work **Yes**
 No. of Donkey Engines **One** Sizes of Pumps **7 1/2" x 9" x 10"** No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room **Two 3"** In Holds, &c. Bilges **1 to 6, one 3" each, Forepeak one 2 1/2", Afterpeak one 2 1/2", Tunnelwell one 2 1/2", Ballast tanks 1 to 6, 19 2 1/2" suction.**
 No. of Bilge Injections **One** size **6"** Connected to ~~circulating pump~~ Is a separate Donkey Suction fitted in Engine room & size **Yes**
 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
 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 **Above**
 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 **None** How are they protected
 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 **None return valves**
 Is the Screw Shaft Tunnel watertight **Yes** Is it fitted with a watertight door **Yes** worked from **Main deck in Engine room**

BOILERS, &c.—(Letter for record (S)) Manufacturers of Steel **Lukens Coatsville Pa. U.S.A.**
 Total Heating Surface of Boilers **4626** Is Forced Draft fitted **No** No. and Description of Boilers **Two Scotch Marine Type.**
 Working Pressure **190 Lbs.** Tested by hydraulic pressure to **285 Lbs.** Date of test **June 1919** No. of Certificate **#18**
 Can each boiler be worked separately **Yes** Area of fire grate in each boiler **63 Sq. feet** No. and Description of Safety Valves to each boiler **Two Morrison Type** Area of each valve **14.1 sq** pressure to which they are adjusted **190 Lbs.** Are they fitted with easing gear **Yes**
 Smallest distance between boilers or uptakes and bunkers or woodwork **18"** Mean dia. of boilers **15' 0"** Length **11' 0"** Material of shell plates **steel**
 Thickness **1.5** Range of tensile strength **28 to 32 Tons** the shell plates welded or flanged **No** Descrip. of riveting: cir. seams **17/16 rivet**
 D.B.S.T. Riveted long. seams **5 rivets to pitch** Diameter of rivet holes in long. seams **1 1/2"** Pitch of rivets **10" & 5"** Lap of plates or width of butt straps **21" x 1 3/4"**
 Per centages of strength of longitudinal joint rivets **87.526%** Working pressure of shell by rules **217.93** Size of manhole in shell **12" x 16"**
 Size of compensating ring **2' 9" x 2' 9" x 1.5** No. and Description of Furnaces in each boiler **Three Morrison** Material **steel** Outside diameter **49.8125**
 Length of plain part top **8.8125** bottom **8.8125** Thickness of plates crown **.625** bottom **.625** Description of longitudinal joint **Welded** No. of strengthening rings
 Working pressure of furnace by the rules **218.4** Combustion chamber plates: Material **steel** Thickness: Sides **.625** Back **.625** Top **.5625** Bottom **.625**
 Pitch of stays to ditto: Sides **6.875** Back **6.875** Top **7 x 7.5** If stays are fitted with nuts or riveted heads **Nuts** Working pressure by rules **211 Lbs.**
 Material of stays **steel** Area at smallest part **1.26** Area supported by each stay **45.285** Working pressure by rules **206** End plates in steam space: Material **steel** Thickness **1.2181** Pitch of stays **15" & 16"** How are stays secured **S.S. nuts** Working pressure by rules **206.4** Material of stays **steel**
 Area at smallest part **4.909** Area supported by each stay **247.5** Working pressure by rules **206** Material of Front plates at bottom **steel**
 Thickness **.8125** Material of Lower back plate **steel** Thickness **.6875** Greatest pitch of stays **6.895 x 13.5** Working pressure of plate by rules **194.4**
 Diameter of tubes **3.25** Pitch of tubes **4 1/2" x 4 1/2"** Material of tube plates **steel** Thickness: Front **.7812** Back **.7812** Mean pitch of stays **11"**
 Pitch across wide water spaces **13.75** Working pressures by rules **194.4 Lbs.** Girders to Chamber tops: Material **steel** Depth and thickness of girder at centre **8.625 x 1.5** Length as per rule **30"** Distance apart **7 1/2"** Number and pitch of stays in each **Three 7 1/2" x 7 1/2"**
 Working pressure by rules **220**
 Diameter of Safety Valve Pressure to which each is adjusted Is Easing Gear fitted

IS A DONKEY BOILER FITTED? No If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— Two connecting red top end belts and nuts, two connecting red bottom end bolts and nuts, two main bearing belts, one set of feed and bilge pump valves, One set of piston springs, one quantity of assorted bolts, nuts, and iron of various sizes, two gauge glasses for main boilers, one set of air pump valves, four patent stays for main boiler, 25 condenser pipe tubes, twelve boiler tubes, one half set of grate bars, and spare propeller.

The foregoing is a correct description,

Port Arthur Shipbuilding Co. Limited.
General Manager

Manufacturer.

Dates of Survey while building { During progress of work in shops - - } Dec. 18-20-26-31, Jan. 2-8-13-20-24-29, Feb. 3-10-19-24-28, March, 5-17-24, April, 9-17, 1918
{ During erection on board vessel - - - } 23-25, May, 7-9-12-14-16-19-21-23-26, June, 2-4-5-7-11-15-18-30, July, 3-14-18-28-29, 31, August, 2-4-5, 1919
Total No. of visits (48)

Is the approved plan of main boiler forwarded herewith Yes

Is the approved plan of main boiler forwarded herewith No

Dates of Examination of principal parts—Cylinders April-19 Slides April-19 Covers April-19 Pistons April-19 Rods April-19
Connecting rods March-19 Crank shaft March-19 Thrust shaft March-19 Tunnel shafts March-19 Screw shaft March-19 Propeller May-19
Stern tube May-19 Steam pipes tested July -19 Engine and boiler seatings May-19 Engines holding down bolts May-19
Completion of pumping arrangements July-19 Boilers fixed June-19 Engines tried under steam July, 25th, 19
Completion of fitting sea connections May -19 Stern tube May/19 Screw shaft and propeller May-19

Main boiler safety valves adjusted August, 1-19 Thickness of adjusting washers 15/16
Material of Crank shaft O.H.S. Identification Mark on Do. 1346786, 954, 811, 848, 1481 W.V.S. Material of Thrust shaft O.H.S. Identification Mark on Do. 969, W.V.S. 1918
Material of Tunnel shafts O.H.S. Identification Marks on Do. 859, 687, 1266, 1296, W.V.S. Material of Screw shafts O.H.S. Identification Marks on Do. 873, W.V.S. 1918
Material of Steam Pipes steel Test pressure 570 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 "Canadian Trader"

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

These Engines and Boilers have been built under special survey according to the rules and approved plans. The workmanship and materials are of good quality. The Engines were given a six hour deck trial July the 25th, and six hours full speed trial on Lake Superior July 31st, when everything worked to the satisfaction of all concerned. The ship has now been accepted by the owners and sailed for Montreal.

The Engines and Boilers are eligible in my opinion to receive the notation of

It is submitted that this vessel is eligible for THE RECORD. + L.M.C 8.19

11/9/19

J.P.R.

The amount of Entry Fee ... \$15 : 00 :
Special ... \$165 : 75 :
Travelling Expenses (if any) \$ 38 : 52 :
When applied for, 10-7-1919
When received, 12-7-1919

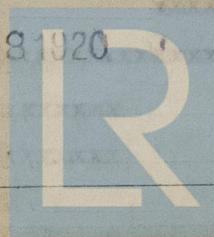
J. Mrs. Corkeindale
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE 16 SEP 1919

FRI OCT 8 1920

Assigned

+ L.M.C 8.19



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