

May 10-1920

Rpt. 4.

REPORT ON MACHINERY.

No. 803.

Date of writing Report April 10 1920 When handed in at Local Office May 3 1920 Port of Vancouver, B.C.
No. in Survey held at Vancouver, B.C. Date, First Survey January 8 1920 Last Survey April 24 1920
Reg. Book. on the Single Screw S.S. Braheholm (Number of Vols. 29)
Master C. Willman Built at Vancouver, B.C. By whom built L. Goughlan Sons Tons { Gross 5765.516
Engines made at Barrow in Furness By whom made Nickers Ld Engine R-559 when made 1919 Net 3543.89
Boilers made at Vancouver, B.C. By whom made Vulcan Iron Works Ld when made 1920 When built 1920
Registered Horse Power 3000 Owners Swedish American Mercantile Line Co. Ltd Port belonging to Gottenburg
Nom. Horse Power as per Section 28 520 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3
Dia. of Cylinders 24 1/4 - 23 1/2 Length of Stroke 48 Revs. per minute 83 Dia. of Screw shaft as per rule 14 1/2 Material of Steel
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 ✓ 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 5'-2"
Dia. of Tunnel shaft as per rule 13 1/2 Dia. of Crank shaft journals as per rule 13 9/16 Dia. of Crank pin 14 1/2 Size of Crank webs 9 1/2 Dia. of thrust shaft under
collars 14 1/2 Dia. of screw 1 1/2 Pitch of Screw 18 feet No. of Blades 4 State whether moveable Yes Total surface 95 sq
No. of Feed pumps 3 2 1/4 Diameter of ditto 4" Stroke 24" Can one be overhauled while the other is at work Yes
No. of Bilge pumps 3 2 1/4 Diameter of ditto 4" Stroke 24" Can one be overhauled while the other is at work Yes
No. of Donkey Engines one Sizes of Pumps 10 1/2 x 14 x 18 No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room 2 off 3 1/2", 2 off 4" In Holds, &c. 1 1/2" Hold 2 off 3 1/2" 1 1/2" Hold 2 off 3 1/2"
No. of Bilge Injections 1 1/2 sizes 9" Connected to condenser, or to circulating pump Pump Is a separate Donkey Suction fitted in Engine room & size Yes 4"
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 Yes
Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Valves & Cocks
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 Bilge Pipes How are they protected Wood Covering
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 Yes Is it fitted with a watertight door Yes worked from Engine Room

BOILERS, &c.—(Letter for record S.S.B.) Manufacturers of Steel Illinois Steel Co Ltd
Total Heating Surface of Boilers 7242 Is Forced Draft fitted Yes No. and Description of Boilers 3 of Scotch Marine
Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test March 4 1920 No. of Certificate 31
Can each boiler be worked separately Yes Area of fire grate in each boiler 66.15 sq No. and Description of Safety Valves to
each boiler 2 of Scotch Marine Area of each valve 9.65 Pressure to which they are adjusted 180 lbs Are they fitted with easing gear Yes
Smallest distance between boilers or uptakes and bunkers or woodwork 18" Mean dia. of boilers 15 3/4 Length 11-6 Material of shell plates Steel
Thickness 1 3/8 Range of tensile strength 60,000 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Lap
long. seams Butt Strap Diameter of rivet holes in long. seams 1 3/8 Pitch of rivets 0 3/4 Lap of plates or width of butt straps 19 7/8
Per centages of strength of longitudinal joint rivets 85 plate 85.4 Working pressure of shell by rules 188.4 Size of manhole in shell 16 x 15
Size of compensating ring 37 1/2 x 2 1/2 No. and Description of Furnaces in each boiler 3 of Brighton Material Steel Outside diameter 50 1/4
Length of plain part top 7 bottom 7 Thickness of plates crown 3/8 bottom 3/8 Description of longitudinal joint ✓ No. of strengthening rings ✓
Working pressure of furnace by the rules 188 Combustion chamber plates: Material Steel Thickness: Sides 3/8 Back 3/8 Top 3/8 Bottom 1 1/2
Pitch of stays to ditto: Sides 7 1/2 Back 8 Top 9 3/4 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 196
Material of stays Steel Area at smallest part 1 5/8 Area supported by each stay 103 Working pressure by rules 187 End plates in steam space:
Material Steel Thickness 1 1/2 Pitch of stays 15 x 18 How are stays secured Double Nuts Working pressure by rules 202 Material of stays Steel
Area at smallest part 2 3/4 Area supported by each stay 135 Working pressure by rules 202 Material of Front plates at bottom Steel
Thickness 1 1/2 Material of Lower back plate Steel Thickness 1 1/2 Greatest pitch of stays 25 1/2 x 16 1/2 Working pressure of plate by rules 199
Diameter of tubes 3" Pitch of tubes 4 1/2 Material of tube plate Steel Thickness: Front 1 1/2 Back 3/4 Mean pitch of stays 8 1/2
Pitch across wide water spaces 13 1/2 Working pressures by rules 183 Girders to Chamber tops: Material Steel Depth and
thickness of girder at centre 10 1/2 Length as per rule 2 1/2 Distance apart 9 3/4 Number and pitch of stays in each 3 off 7 1/2
Working pressure by rules 250 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 ✓

005788-005799-0016

IS A DONKEY BOILER FITTED? *NO*

If so, is a report now forwarded? *✓*

SPARE GEAR. State the articles supplied:—*Two Connecting Rod Top & Bottom End Bolter Nuts, Two Main Bearing Bolter Nuts, Six off Coupling Bolter Nuts, one Set each of Feed & Bilge Pump Valves, Three Main & Three Donkey Feed Check valves, 24 Bolter Nuts assorted cylinders & 6 Steam Check Cover Studs & Nuts, 12 Lunk Ring Studs & Nuts, Quantity of Iron of various Sizes, 1 Propeller Blade, one H.P. Piston Valve, Condenser Tubes & Ferrule's, Boiler Tubes, white Metal Pumps Etc. Etc.*

The foregoing is a correct description, *✓*

J. COUGHLIN & SONS LTD.

John Coughlin

Manufacturer.

Dates of Survey while building
During progress of work in shops -- *Jan. 8 & 20 Feb. 3, 5, 7, 11, 13, 17, 18, 19, 23, 27, 28, March, 1, 2, 4, 23, 25, 29, 30 April 1, 5, 14, 15, 19, 21, 22, 24*
During erection on board vessel --
Total No. of visits *29 visits*

Is the approved plan of main boiler forwarded herewith *Yes*

Dates of Examination of principal parts—Cylinders *April 19/20* Slides *April 19/20* Covers *April 19/20* Pistons *April 19/20* Rods *April 19/20*

Connecting rods *April 14/20* Crank shaft *March 4/20* Thrust shaft *April 5/20* Tunnel shafts *April 5/20* Screw shaft *March 23/20* Propeller *April 5/20*

Stern tube *July 25/20* Steam pipes tested *April 15/20* Engine and boiler seatings *April 14/20* Engines holding down bolts *April 14/20*

Completion of pumping arrangements *April 19/20* Boilers fixed *April 5/20* Engines tried under steam *April 21/20*

Completion of fitting sea connections *March 23/20* Stern tube *March 23/20* Screw shaft and propeller *April 5/20*

Main boiler safety valves adjusted *April 19/20* Thickness of adjusting washers *19/32 5/8 3/8 17/32 4/16 3/16*

Material of Crank shaft *Steel* Identification Mark on Do. *[Stamp]* Material of Thrust shaft *Steel* Identification Mark on Do. *[Stamp]*

Material of Tunnel shafts *Steel* Identification Marks on Do. *[Stamp]* Material of Screw shafts *Steel* Identification Marks on Do. *[Stamp]*

Material of Steam Pipes *Steel* Test pressure *540 lb. sq. in.*

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 *✓* If so, state name of vessel *✓*

General Remarks (State quality of workmanship, opinions as to class, &c.) *The Engines & Boilers of this*

Vessel have been built under Special Survey and installed under

Special Survey and in accordance with approved plans

together with the Auxiliaries, Pumps, Piping mounting

and fittings and Sea Connections Etc. The Material and

Workmanship are both of Good Quality on Completion

of the Machinery Installation the Vessel was tried under

full Steam at Sea & found Satisfactory

Please Refer to Barrow in Furness Report No. 1819

Tail Shaft is a continuous Liner

Safety Valves were floated independently

The Machinery and Boilers are eligible in my opinion

to have the record L.M.C. 4-20 made in the Register

Book in the case of this Vessel.

The amount of Entry Fee ... *£ 15.00*

Special ... *£ 153.35*

Donkey Boiler Fee ... *£ 10.00*

See Arrisland to the Secretary

Travelling Expenses (if any) *£*

Letting, stating, etc. have been applied for, Date *Dec 25, 1919*

Committee's Minute

Assigned

When applied for,

May 3, 1920

When received,

19

W. P. McGowan

Engineer Surveyor to Lloyd's Register of Shipping.

FRI. MAY. 28 1920

+ L.M.C. 4-20 7D

Fitted for oil fuel 4-20, T.P. above 150°F.



Lloyd's Register Foundation