

REPORT ON MACHINERY.

No. 17

Oct. 14th 1918 When handed in at Local Office Oct. 14th 1918 Port of Duluth Minnesota NOV. 1913

held at Duluth Minn Date, First Survey 2nd March Last Survey Oct. 4th 1918

Single Screw Steel Steamer "Lake Indian" (Number of Visits 67)

Leonard Built at Duluth By whom built W. C. Dougall Duluth Co. Tons { Gross 1991 Net 1178

Duluth By whom made W. C. Dougall Duluth Co. when made 1918

Duluth By whom made Duluth Boiler Works when made 1918

Power Owners U. S. S. Board, Emergency Fuel Co. Port belonging to Duluth

Power as per Section 28 274 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

&c.—Description of Engines Triple Expansion Reciprocating No. of Cylinders 3 No. of Cranks 3

Boilers 20"-33"-54" Length of Stroke 40" Revs. per minute 90 Dia. of Screw shaft 11.03 as per rule 11.022 Material of Steel as fitted 11.06 screw shaft

shaft fitted with a continuous liner the whole length of the stern tube Yes Is the after end of the liner made water tight

Uller 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

bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive Yes If two

ted, is the shaft lapped or protected between the liners Yes Length of stern bush 4'-1 1/4"

shaft as per rule 10.31 Dia. of Crank shaft journals as per rule 10.83 Dia. of Crank pin 1 1/4" Size of Crank webs 7 1/2" x 2 1/2" Dia. of thrust shaft under as fitted 10 3/8" as fitted 11" as fitted 11.06

Dia. of screw 12'-6" Pitch of Screw 14'-8" No. of Blades 4 State whether moveable No Total surface 64.1 ft²

pumps 2 Diameter of ditto 3 1/2" Stroke 20" Can one be overhauled while the other is at work Yes

pumps 2 Diameter of ditto 4" Stroke 20" Can one be overhauled while the other is at work Yes

Key Engines 3 Sizes of Pumps 1 V.D. 9"x6"x10" 1 V.D. 10"x6"x10" No. and size of Suctions connected to both Bilge and Donkey pumps

Room 4'-3" In Holds, &c. 2'-3" in No. 1 hold, 2'-3" in No. 2, 1'-3" in

well, 1'-3" in Tunnel well

Injections 1 sizes 6" Connected to condenser, or to circulating pump Yes a separate Donkey Suction fitted in Engine room & size 1'-3"

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

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

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 Both

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

es are carried through the bunkers None How are they protected Yes

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

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

crew Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Eng. room. Cop. Platform.

RS, &c.—(Letter for record S.) Manufacturers of Steel Almond Steel Co.

Heating Surface of Boilers 5246 ft² Is Forced Draft fitted No No. and Description of Boilers 2 Scotch

ing Pressure 180 lbs. Tested by hydraulic pressure to 270 lbs. Date of test 16-9-18 No. of Certificates 27 & 28

ch boiler be worked separately Yes Area of fire grate in each boiler 63 ft² No. and Description of Safety Valves to

iler 2 Dried spring loaded Area of each valve 7.07 ft² Pressure to which they are adjusted 180 lbs. Are they fitted with easing gear Yes

st distance between boilers or uptakes and bunkers or woodwork 8" Mean dia. of boilers 14'-6" Length 11'-0" Material of shell plates S

ess 11/16" Range of tensile strength 60000 lbs. Are the shell plates welded or flanged No Descrip. of riveting: cir. seams P. R. Lap

Forecastle 2 seams Y. R. D. Butt Diameter of rivet holes in long seams 1 5/16" Pitch of rivets 8 1/2" x 4 1/4" Lap of plates or width of butt straps 19 3/4"

ntages of strength of longitudinal joint rivets 94.7% plate 84.6% Working pressure of shell by rules 198 lbs. Size of manhole in shell 15" x 11"

f compensating ring 34" x 33" x 1 1/4" No. and Description of Furnaces in each boiler 3 Johnson Material Steel Outside diameter 46 1/16"

h of plain part top Thickness of plates crown 9/16" Description of longitudinal joint Welded No. of strengthening rings None

bottom bottom Thickness of plates bottom 5/8" Description of longitudinal joint Welded No. of strengthening rings None

ing pressure of furnace by the rules 188 lbs. Combustion chamber plates: Material S Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 5/8"

of stays to ditto: Sides 7 7/16" x 7 7/16" Back 7 7/16" x 7 7/16" Top 7 1/2" x 8" If stays are fitted with nuts or riveted heads brown, nuts remainder riveted Working pressure by rules 180 lbs

erial of stays S Area at smallest part 1.806 Area supported by each stay 55.3 Working pressure by rules 245 lbs End plates in steam space:

erial S Thickness 1/32" Pitch of stays 7" x 15 3/4" How are stays secured D. Nut Working pressure by rules 199 lbs Material of stays S

a at smallest part 5.41 Area supported by each stay 268 Working pressure by rules 210 lbs Material of Front plates at bottom S

ckness 13/16" Material of Lower back plate S Thickness 5/8" x 1/2" Greatst pitch of stays 12 1/2" x 6 1/2" Working pressure of plate by rules 197 lbs

meter of tubes 3 1/4" Pitch of tubes 4 1/4" x 4 1/8" Material of tube plates S Thickness: Front 3/4" Back 3/4" Mean pitch of stays 12 3/8" x 8 1/2"

ch across wide water spaces 13 3/4" Working pressures by rules 183.5 lbs Girders to Chamber tops: Material S Depth and

ckness of girder at centre 8 5/8" x 1 1/2" Length as per rule 30" Distance apart 8" Number and pitch of stays in each 3 @ 7 1/2"

2.3 Working pressure by rules 220 lbs Steam dome: description of joint to shell None % of strength of joint Yes

1. 23 Diameter Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes

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

31. PERHEATER. Type None Date of Approval of Plan Tested by Hydraulic Pressure to

100 Date of Test Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

meter 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:—2 Connecting rod top end bolts and nuts, 2 Connecting rod bottom end bolts and nuts, 2 main bearing bolts, one set of coupling bolts, one set of feed and bilge pump valves, one set of piston springs, a quantity of assorted bolts and nuts, iron of various sizes, one spare propeller, one crank shaft gauge, one set of valves for auxiliary pumps, a number of condenser tubes with ferrules, and a number of plain boiler tubes etc. ✓

The foregoing is a correct description,

McDOUGALL-DULUTH CO.

J. Miller McIngaill

Manufacturer.

Dates of Survey while building { During progress of work in shops - - } March 2, 5, 7, 10, 14, 21, 25, 28, 30, April 3, 6, 9, 12, 17, 21, 24, 27, May 1, 4, 6, 8, 12, 16, 18, 20, 24, 28, June 1, 3, 6, 8, 11, 15, 18, 20, 23, 26, 29, July 2, 4, 8, 12, 16, 20, 23, 26, 29, 30, Aug. 1, 5, 7, 9, 12, 17, 22, 24, 28, Sept. 3, 6, 7, 10, 16, 19, 21, 26, 28, Oct. 4
During erection on board vessel - - -
Total No. of visits 67.

Is the approved plan of main boiler forwarded herewith

" " " donkey " " "
Dates of Examination of principal parts—Cylinders 20-6-18 Slides 20-6-18 Covers 20-6-18 Pistons 16-7-18 Rods 16-7-18
Connecting rods 29-7-18 Crank shaft 15-6-18 Thrust shaft 5-8-18 Tunnel shafts 17-8-18 Screw shaft 8-7-18 Propeller 8-7-18
Stern tube 8-7-18 Steam pipes tested 21-9-18 Engine and boiler seatings 22-8-18 Engines holding down bolts 10-9-15
Completion of pumping arrangements 16-9-18 Boilers fixed 21-9-18 Engines tried under steam 28-9-18
Completion of fitting sea connections 16-7-18 Stern tube 20-7-18 Screw shaft and propeller 20-7-18
Main boiler safety valves adjusted 28-9-18. Thickness of adjusting washers None fitted
Material of Crank shaft S Identification Mark on Do. 15-6-18. Lloyd's 119 Material of Thrust shaft S Identification Mark on Do. 5-8-18. Lloyd's 121
Material of Tunnel shafts S Identification Marks on Do. 17-8-18. Lloyd's 122 Material of Screw shafts S Identification Marks on Do. 8-7-18. Lloyd's 120
Material of Steam Pipes Lap welded steel and copper head Test pressure 540 lbs and 360 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 Yes
Is this machinery duplicate of a previous case Yes If so, state name of vessel "Lake Helen" ✓

General Remarks (State quality of workmanship, opinions as to class, &c. These engines and boilers have been constructed under special survey, in accordance with the approved plans. The workmanship and materials are of good quality and eligible in my opinion to receive the notation + LMC. 10-1

It is submitted that
this vessel is eligible for
THE RECORD. + LMC. 10. 18.

The amount of Entry Fee ... £ \$ 15.00: When applied for,
Special ... £ \$ 168.00: 9/10/1918
Donkey Boiler Fee ... £ : : When received,
Travelling Expenses (if any) £ \$ 9.00: 17/10/1918

Committee's Minute New York OCT 29 1918

Assigned

+ LMC 10. 18

Machinery Certificate
20/11/18
WATSON

Geo. Lully

Engineer Surveyor to Lloyd's Register of Shipping.



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Foundation