

## REPORT ON MACHINERY.

No. 231

Received at London Office

Date of writing Report 3<sup>rd</sup> DEC<sup>r</sup> 1919 When handed in at Local Office 5<sup>th</sup> DEC<sup>r</sup> 1919 Port of DETROIT MICH. U.S.A. 23.1919No. in Survey held at DETROIT MICH. Date, First Survey 16<sup>th</sup> APR. 1919 Last Survey 4<sup>th</sup> DEC 1919  
Reg. Book. on the STEEL SINGLE SCREW STEAMER "LAKE FAIRPORT" (Number of Visits 82) Tons { Gross 2606.44  
Net 1612Master Built at WYANDOTTE MICH. By whom built DETROIT SHIPBUILDING CO. When built 1919Engines made at DETROIT By whom made DETROIT SHIPBUILDING CO when made 1919Boilers made at " By whom made " when made 1919Registered Horse Power Owners U.S. SHIPPING BOARD EMERGENCY FLEET CORP. Port belonging to WYANDOTTE MICH. U.S.A.Nom. Horse Power as per Section 28 352 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 21" x 35" x 59" Length of Stroke 42" Revs. per minute 81 Dia. of Screw shaft 12.28" Material of S  
as per rule 12.28" as fitted 12.8" screw shaft  
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 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  
liners are fitted, is the shaft lapped or protected between the liners YES Length of stern bush 51"  
Dia. of Tunnel shaft 10.96" Dia. of Crank shaft journals 11.2" Dia. of Crank pin 11.8" Size of Crank webs 17" x 7.2" Dia. of thrust shaft under  
collars 11.5" Dia. of screw 15'-0" Pitch of Screw 13'-10" No. of Blades 4 State whether moveable No Total surface 61  
INDEPENDENT  
No. of Feed pumps 2 Diameter of ditto 10" x 12" Stroke 20" Can one be overhauled while the other is at work YES  
No. of Bilge pumps 2 Diameter of ditto 3.2" Stroke 20" Can one be overhauled while the other is at work YES  
No. of Donkey Engines 2 Sizes of Pumps 10" x 6" x 10" & 10" x 12" x 12" No. and size of Suctions connected to both Bilge and Donkey pumps  
In Engine Room: 3-3" DIA. STROKEHOLD: 2-3" DIA. In Holds, &c. FOREHOLD: 2-3" DIA. AFTERHOLD: 3-3" DIA.  
TUNNEL: 1-3" DIA. 2 COFFERDAMS: EACH 1-3" DIA.  
No. of Bilge Injections 1 size 1.8" DIA. Connected to condenser, or to circulating pump C.P. Is a separate Donkey Suction fitted in Engine room & size YES-1" DIA.  
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 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 OTHERS 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 YES  
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 UPPER DECK

BOILERS, &c.—(Letter for record R) Manufacturers of Steel CARNEGIE STEEL CO.  
Total Heating Surface of Boilers 5467 Is Forced Draft fitted YES No. and Description of Boilers 2 MULTITUBULAR, SINGLE END  
Working Pressure 185 Tested by hydraulic pressure to 278 Date of test 17<sup>th</sup> AUG No. of Certificate 300 & 301  
Can each boiler be worked separately YES Area of fire grate in each boiler 57.75 No. and Description of Safety Valves to  
each boiler 2 SPRING LOADED Area of each valve 9.82 Pressure to which they are adjusted 186 Are they fitted with easing gear YES  
Smallest distance between boilers or uptakes and bunkers or woodwork 13.2" Mean dia. of boilers 14'-6" Length 11'-0" Material of shell plates S  
Thickness 1/32" Range of tensile strength 60,000-71,680 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams I S.R.  
long. seams DBS. T.R. Diameter of rivet holes in long. seams 1 1/16" Pitch of rivets 8 1/2" Lap of plates or width of butt straps 19 3/4"  
Per centages of strength of longitudinal joint rivets 88-1 Working pressure of shell by rules 199.5 Size of manhole in shell 15" x 11"  
plate 8A-6  
Size of compensating ring 30.33 x 1.5 No. and Description of Furnaces in each boiler 3 CORR Material S Outside diameter 46 1/16"  
Length of plain part top 1.5 Thickness of plates crown 1 1/16" Description of longitudinal joint WELD No. of strengthening rings NONE  
bottom 1 1/16" Working pressure of furnace by the rules 191 Combustion chamber plates: Material S Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 5/8"  
Pitch of stays to ditto: Sides 6 7/8" x 6 7/8" Back 6 7/8" x 6 7/8" Top 8" x 7 1/2" If stays are fitted with nuts or riveted heads R.H. Working pressure by rules 211.6  
Material of stays IRON Area at smallest part 1.47 Area supported by each stay 47.26 Working pressure by rules 187 End plates in steam space:  
Material S Thickness 1/32" Pitch of stays 16 5/8" x 15 1/2" How are stays secured D. NUTS Working pressure by rules 207.4 Material of stays S  
Area at smallest part 5.41 Area supported by each stay 257.68 Working pressure by rules 218.3 Material of Front plates at bottom S  
Thickness 13/16" Material of Lower back plate S Thickness 5/8" DBL Greatest pitch of stays 12 1/2" x 6 5/8" Working pressure of plate by rules 192.6  
Diameter of tubes 2 3/4" Pitch of tubes 3 3/4" x 3 3/4" Material of tube plates S Thickness: Front 1/16" Back 1/16" Mean pitch of stays 9 3/8"  
Pitch across wide water spaces 13 1/2" DBL Working pressures by rules 190.2 Girders to Chamber tops: Material S Depth and  
thickness of girder at centre 8 1/2" x 12" Length as per rule 30 Distance apart 8' Number and pitch of stays in each 3-7 1/2"  
Working pressure by rules 226 Steam dome: description of joint to shell YES % of strength of joint YES  
Diameter YES Thickness of shell plates YES Material YES Description of longitudinal joint YES Diam. of rivet holes YES  
Pitch of rivets YES Working pressure of shell by rules YES Crown plates YES Thickness YES How stayed YES  
SUPERHEATER. Type YES Date of Approval of Plan YES Tested by Hydraulic Pressure to YES  
Date of Test YES Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler YES  
Diameter of Safety Valve YES Pressure to which each is adjusted YES Is Easing Gear fitted YES

W406-0226



IS A DONKEY BOILER FITTED? No

If so, is a report now forwarded? ☒

SPARE GEAR. State the articles supplied:— 1 Set each of Top & Bott. end ~~brasses~~ 1 H.P. Valve spindle. 1 Set each of Top & Bott. end, main bearing coupling bolts. 1 Set each of Feed, Air & Bilge pump valves. 1 Set each of H.P. & L.P. piston rings & L.P. & H.P. piston ring springs. 1 Set of H.P. & L.P. Valve rings. 20 Boiler tubes. 1 Set of safety valve springs. 58 Condenser tubes & ferrules. 1 C.I. Propeller, Assorted Iron, Bolt & Nuts.

The foregoing is a correct description,

TROIT SHIPBUILDING CO.

Manufacturer.

Dates of Survey while building { During progress of work in shops - - - APR. 16-18-22-29-30. MAY 1-2-6-15-17-20-23-28. JUNE 2-4-5-6-10-12-13-16-17-18-19-20-24-25-26-27-30. JULY 3-7-8-9-10-11-14-15-17-18-21-22-24-25-28-29-30-31. AUG. 1-4-5-6-8-11-14-16-18-19-20-21-22. OCT. 3-13-22-23-24-27-28-29-31. NOV. 3-6-13-14-15-17-19-24-25. DEC. 1-4. Total No. of visits 82

Is the approved plan of main boiler forwarded herewith No

" " " donkey " " " ☒

Dates of Examination of principal parts—Cylinders 8-8-19. Slides 14-8-19. Covers 14-8-19. Pistons 1-8-19. Rods 21-8-19. Connecting rods 28-7-19. Crank shaft 7-8-19. Thrust shaft 14-8-19. Tunnel shafts 1-5-19. Screw shaft 17-7-19. Propeller 9-7-19. Stern tube 12-7-19. Steam pipes tested 3-11-19. Engine and boiler seatings 13-10-19. Engines holding down bolts 3-11-19. Completion of pumping arrangements 24-11-19. Boilers fixed 3-11-19. Engines tried under steam 25-11-19. Completion of fitting sea connections 3-10-19. Stern tube 27-8-19. Screw shaft and propeller 27-8-19. Main boiler safety valves adjusted 25-11-19.

Material of Crank shaft S Identification Mark on Do. 8-19 W.R.M. Lloyd's No. 18. Material of Thrust shaft S Identification Mark on Do. 8-19 W.R.M. Lloyd's No. 18. Material of Tunnel shafts S Identification Marks on Do. 5-19 W.R.M. Lloyd's No. 18. Material of Screw shafts S Identification Marks on Do. 7-19 W.R.M. Lloyd's No. 18. Material of Steam Pipes SEAMLESS STEEL Test pressure 155

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 YES If so, state name of vessel "LAKE FAIRLIE" REPORT No. 229.

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

These Engines and Boilers have been built under special survey and in accordance with the Rules; the materials and workmanship are sound and good. They have been fitted on board in an efficient manner, tried under steam and found satisfactory. They are, in my opinion, eligible to be classed in the Register Book with the record of +LMC-12-19.

It is submitted that this vessel is eligible for THE RECORD +LM.C. 12-19 F.D.

FITTED FOR OIL FUEL 12-19. F.P. ABOVE 150°F.

The amount of Entry Fee ... \$ 15 : 00 : When applied for, Special ... \$ 188 : 00 : 5<sup>TH</sup> DEC<sup>R</sup> 1919 Donkey Boiler Fee ... \$ 1 : 50 : When received, Travelling Expenses (if any) £ : : 17/12/19

Wm R. Mitchell Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

+ LMC 12.19



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