

Rpt. 4.

## REPORT ON MACHINERY.

No. 272.

Received at London Office

Date of writing Report 28<sup>TH</sup> SEP 1920 When handed in at Local Office 10<sup>TH</sup> NOV 1920 Port of DETROIT MICH U.S.A. TUE NOV 30 1920

No. in Survey held at DETROIT Date, First Survey 7<sup>TH</sup> JAN. 1920 Last Survey 5<sup>TH</sup> NOV 1920  
 Reg. Book. (Number of Visits 64)

on the STEEL, SINGLE SCREW STEAMER "KIOWA." Gross 2309  
 Tons Net 1440  
 When built 1920

Master Built at WYANDOTTE By whom built DETROIT SHIPBUILDING CO.

Engines made at DETROIT By whom made DETROIT SHIPBUILDING CO. when made 1920

Boilers made at " By whom made " when made 1920

Registered Horse Power Owners INDEPENDENT STEAMSHIP CO. Port belonging to WYANDOTTE.

Nom. Horse Power as per Section 28 265 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 20" x 33" x 54" Length of Stroke 40" Revs. per minute 84.5 Dia. of Screw shaft as per rule 11 1/2" Material of screw shaft 5  
 as fitted 11 1/2"

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 50 1/2"

Dia. of Tunnel shaft as per rule 10.39" Dia. of Crank shaft journals as per rule 10.91" Dia. of Crank pin 11" Size of Crank webs 16 1/2" x 7" Dia. of thrust shaft under collars 11" Dia. of screw 14'-0" Pitch of Screw 12'-5" No. of Blades 4 State whether moveable YES Total surface 54.75

INDEPENDENT No. of Feed pumps 2 Diameter of ditto 10" x 1/2" Stroke 20" Can one be overhauled while the other is at work YES

No. of Bilge pumps 2 Diameter of ditto 3 1/2" Stroke 20" Can one be overhauled while the other is at work YES

No. of Donkey Engines 2 Sizes of Pumps 4 1/2" x 6" x 10" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room: 3-3" DIA. STOKHOLD: 2-3" DIA. In Holds, &c. FOREHOLD: 2-3" DIA. AFTERHOLD: 3-3" DIA.  
TUNNEL: 1-3" DIA. 2 COFFERDAM: EACH 1-3" DIA.

No. of Bilge Injections 1 size 16" DIA. Connected to condenser, or to circulating pump C. P. Is a separate Donkey Suction fitted in Engine room & size YES 3" 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 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., & LUKENS STEEL CO.

Total Heating Surface of Boilers 3940 Is Forced Draft fitted YES No. and Description of Boilers 2 MULTITUBULAR, SINGLE END

Working Pressure 185 Tested by hydraulic pressure to 278 Dates of tests 22<sup>ND</sup> 25<sup>TH</sup> MAY 1920 Nos of Certificates 346 & 347

Can each boiler be worked separately YES Area of fire grate in each boiler 44 No. and Description of Safety Valves to each boiler 2 SPRING LOADED Area of each valve 7 1/4" Pressure to which they are adjusted 186 Are they fitted with easing gear YES

Smallest distance between boilers or uptakes and bunkers 14 1/2" Mean dia. of boilers 13'-2" Length 10'-10 1/2" Material of shell plates S

Thickness 1 1/2" Range of tensile strength 60,000-71,680 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams L. D.R.  
 long. seams D.B.S. T.R. Diameter of rivet holes in long. seams 1 1/8" Pitch of rivets 9" Lap of plates or width of butt straps 12 1/2" & 20 1/2"

Per centages of strength of longitudinal joint rivets 84.9 Working pressure of shell by rules 190.4 Size of manhole in shell 15" x 11"  
 plate 84.72

Size of compensating ring 33" x 33" x 1 1/2" No. and Description of Furnaces in each boiler 2 CORR. Material S Outside diameter 52.25"

Length of plain part top 21" Thickness of plates bottom 3 1/2" Description of longitudinal joint WELD No. of strengthening rings NONE

Working pressure of furnace by the rules 228.9 Combustion chamber plates: Material S Thickness: Sides 5/8" Back 5/8" Top 9/16" Bottom 5/8"

Pitch of stays to ditto: Sides 1/4" x 1/4" Back 1/4" x 1/4" Top 1/4" x 1/4" If stays are fitted with nuts or riveted heads R. H. Working pressure by rules 190.2

Material of stays IRON Area at smallest part 1.42 Area supported by each stay 52.56 Working pressure by rules 203.6 End plates in steam space: Material S Thickness 1" Pitch of stays 16 1/8" x 1/4" How are stays secured D. NUTS Working pressure by rules 215.9 Material of stays S

Area at smallest part 4.9 Area supported by each stay 236.18 Working pressure by rules 215.9 Material of Front plates at bottom S

Thickness 1" Material of Lower back plate S Thickness 1" Greatest pitch of stays 3 1/2" x 1/4" Working pressure of plate by rules 211.9

Diameter of tubes 2 1/2" Pitch of tubes 3 1/2" x 3 1/2" Material of tube plates S Thickness: Front 1" Back 1 1/8" Mean pitch of stays 9 1/8"

Pitch across wide water spaces 13 1/2" Working pressures by rules 196.6 Girders to Chamber tops: Material S Depth and thickness of girder at centre 9 1/4" x 1 1/2" Length as per rule 32 5/8" Distance apart 7" Number and pitch of stays in each 3-4 1/2"

Working pressure by rules 224.4 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 FOSTER Date of Approval of Plan 21<sup>ST</sup> FEB. 1920 Tested by Hydraulic Pressure to 630

Date of Test 19<sup>TH</sup> FEB. 1920 Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler YES

Diameter of Safety Valve 1 1/2" Pressure to which each is adjusted 191 Is Easing Gear fitted YES

007324-067333-0288



IS A DONKEY BOILER FITTED? No

If so, is a report now forwarded? ☒

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SPARE GEAR. State the articles supplied:— 1 Set each of Top & Bottom end, Main bearing & Coupling bolts, 1 Set each of Feed, Air & Bilge pump valves. 1 Ecc. Strap. 1 Set of Piston rings & springs. 12 Boiler tubes. 1 Set of Safety Valve springs. 36 Condenser tubes & ferrules 2 Bronze Propeller blades & studs, Assorted Iron, Bolts & Nuts.

The foregoing is a correct description,

DETROIT SHIPBUILDING CO.

John Lincoln

Manufacturer.

Dates of Survey while building { During progress of work in shops -- } Jan. 1. 23. FEB. 6. MAR. 11. 27. 31. APR. 16. 18. 21. 22. 24. 26. 28. 29. MAY 4. 6. 8. 10. 11. 12. 15. 17. 19. 20. 22. 24. 26. 27. 28. JUNE 1. 3. 8. 9. 10. 12. 14. 15. 19. 21. 23. 24. 28. 29. { During erection on board vessel -- } JULY 1. 2. 7. 10. 12. 14. 19. 22. 23. 29. AUG. 23. 24. 25. NOV. 1. 5. Total No. of visits 64.

Is the approved plan of main boiler forwarded herewith YES

" " " donkey " " " V

Dates of Examination of principal parts—Cylinders 28-5-20 Slides 14-5-20 Covers 24-6-20 Pistons 24-6-20 Rods 24-6-20

Connecting rods 24-5-20 Crank shaft 14-6-20 Thrust shaft 9-6-20 Tunnel shafts 24-4-20 Screw shaft 6-5-20 Propeller 28-4-20

Stern tube 12-5-20 Steam pipes tested 12-4-20 Engine and boiler seatings 12-6-20 Engines holding down bolts 10-4-20

Completion of pumping arrangements 19-4-20 Boilers fixed 10-4-20 Engines tried under steam 19-4-20

Completion of fitting sea connections 14-5-20 Stern tube 14-5-20 Screw shaft and propeller 14-5-20

Main boiler safety valves adjusted 28-4-20 Thickness of adjusting washers PORT E. 3/32" A. 5/8" STARB. E. 3/32" A. 9/16"

Material of Crank shaft S Identification Mark on Do. 6-20 W.R.M. Material of Thrust shaft S Identification Mark on Do. 6-20 W.R.M.

Material of Tunnel shafts S Identification Marks on Do. 24-20 W.R.M. Material of Screw shafts S Identification Marks on Do. 6-20 W.R.M.

Material of Steam Pipes LAPWELDED STEEL Test pressure 555 LBS.

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 S.S. "ONEIDA" REPORT No. 268.

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

These Engines & Boilers have been built under special supervision in accordance with the Rules. The materials & workmanship are of good quality. They have been fitted on board in an efficient manner, tried under steam & found satisfactory. They are eligible, in my opinion, to be classed in the Register Book with the record of + LMC 11.20.

It is submitted that this vessel is eligible for THE RECORD + LMC 11.20 FD. FITTED FOR OIL FUEL 11.20. FP ABOVE 150°F.

MACHINERY CERT. WRITTEN 30.11.20

Roll

14/12/20

RRS

The amount of Entry Fee ... \$ 10 : 00 : When applied for, Special ... \$ 166 : 25 : 8<sup>TH</sup> NOV 1920 Donkey Boiler Fee ... £ : : When received, Travelling Expenses (if any) \$ 2 : 20 : 11.11.20

Committee's Minute New York NOV 16 1920 Assigned + LMC 11.20

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



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Surveyor's Signature