

REPORT ON MACHINERY.

No. 1166.

Date of writing Report 21 June 1919 When handed in at Local Office 28 June 1919 Port of Boston, Mass.
No. in Survey held at Bath, Me. Date, First Survey 10 June 1918 Last Survey 14 June 1919
Reg. Book. ✓ on the s/s SHENANDOAH (Number of Visits 22)
Master T. J. Cole Built at Bath, Me. By whom built The Toccoa Steamship Co. Tons Gross 6768
Engines made at Buffalo, N.Y. By whom made H. S. Trout Co. Net 5143
Boilers made at Bayonne N.J. By whom made Babcock & Wilcox Co. When built 1919
Registered Horse Power ✓ Owners U.S. Shipping Board, Emergency Fleet Corp. Port belonging to Bath, Me.
Nom. Horse Power as per Section 28 556 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 26½ - 44 - 74" Length of Stroke 51" Revs. per minute 75 Dia. of Screw shaft as per rule 15 15½ Material of screw shaft 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 14 14½
Dia. of Tunnel shaft as per rule 14 14½ Dia. of Crank shaft journals as per rule 14 14½ Dia. of Crank pin 14 14½ Size of Crank webs 28x10" Dia. of thrust shaft under collars 14 14½ Dia. of screw 17-9" Pitch of Screw 17-6" No. of Blades 4 State whether moveable no Total surface 108 sq ft
No. of Feed pumps 2 simplex Diameter of ditto 11x8" Stroke 26" Can one be overhauled while the other is at work yes
No. of Bilge pumps 2 Diameter of ditto 5½" Stroke 24" Can one be overhauled while the other is at work yes
No. of Donkey Engines 2 duplex Sizes of Pumps Bilge & Ballast 12x10x12 Sanitary 6x6x6 No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room 4-3½" x 1-4½" In Holds, &c. Oil cargo pumping system
No. of Bilge Injections 1 sizes 10" Connected to condensers to circulating pump yes 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 none
Are all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks valves
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 below
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 Oil fuel suction How are they protected no protection. Oil fuel
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
Dates of examination of completion of fitting of Sea Connections 3 Feb 1919 of Stern Tube 21 Feb 1919 Screw shaft and Propeller 27 March 1919
Is the Screw Shaft Tunnel watertight no tunnel Is it fitted with a watertight door ✓ worked from ✓

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel Lubers D & S. Co.
Total Heating Surface of Boilers 9969 sq ft Is Forced Draft fitted no No. and Description of Boilers 3 Babcock & Wilcox Watertube
Working Pressure 200 lbs Tested by hydraulic pressure to 400 lbs Date of test 19 March 1919 No. of Certificate 26
Can each boiler be worked separately yes Area of fire grate in each boiler oil fired No. and Description of Safety Valves to each boiler 2 spring loaded Area of each valve 9.62 sq ft Pressure to which they are adjusted 200 lbs Are they fitted with easing gear yes
Smallest distance between boilers or uptakes and bunkers or woodwork abt 2'-0" Mean dia. of boilers 42" Length 4'-7½" Material of shell plates steel
Thickness 9/16" Range of tensile strength 60,000 lbs Are the shell plates welded or flanged no Descrip. of riveting: cir. seams S.R. Cap
long. seams D.R. D.B.S. Diameter of rivet holes in long. seams 29/32 Pitch of rivets 2 3/4 x 4 3/8 Lap of plates or width of butt straps 9 3/4 outside 15 inside
Per centages of strength of longitudinal joint rivets 95 Working pressure of shell by rules 284 lbs Size of manhole in shell 15x11
Size of compensating ring flanged 7/8" No. and Description of Furnaces in each boiler ✓ Material ✓ Outside diameter ✓
Length of plain part top Thickness of plates crown Description of longitudinal joint ✓ No. of strengthening rings ✓
Working pressure of furnace by the rules ✓ Combustion chamber plates: Material ✓ Thickness: Sides ✓ Back ✓ Top ✓ Bottom ✓
Pitch of stays to ditto: Sides ✓ Back ✓ Top ✓ If stays are fitted with nuts or riveted heads ✓ Working pressure by rules ✓
Material of stays ✓ Diameter at smallest part ✓ Area supported by each stay ✓ Working pressure by rules ✓ End plates in steam space: 229
Material Steel Thickness 19/32 Pitch of stays ✓ How are stays secured Double ends 4 1/2" radius Working pressure by rules 204 lbs Material of stays ✓
Diameter at smallest part ✓ Area supported by each stay ✓ Working pressure by rules ✓ Material of Front plates at bottom ✓
Thickness ✓ Material of Lower back plate ✓ Thickness ✓ Greatest pitch of stays ✓ Working pressure of plate by rules ✓
Diameter of tubes ✓ Pitch of tubes ✓ Material of tube plates ✓ Thickness: Front ✓ Back ✓ Mean pitch of stays ✓
Pitch across wide water spaces ✓ Working pressures by rules ✓ Girders to Chamber tops: Material ✓ Depth and thickness of girder at centre ✓ Length as per rule ✓ Distance apart ✓ Number and pitch of stays in each ✓
Working pressure by rules ✓ Superheater or Steam chest; how connected to boiler Tubes Can the superheater be shut off and the boiler worked separately yes Diameter ✓ Length ✓ Thickness of shell plates ✓ Material ✓ Description of longitudinal joint ✓ Diam. of rivet holes ✓ Pitch of rivets ✓ Working pressure of shell by rules ✓ Diameter of flue ✓ Material of flue plates ✓ Thickness ✓
If stiffened with rings ✓ Distance between rings ✓ Working pressure by rules ✓ End plates: Thickness ✓ How stayed ✓
Working pressure of end plates ✓ Area of safety valves to superheater 1.76 sq ft Are they fitted with easing gear yes

VERTICAL DONKEY BOILER—

Manufacturers of Steel

No donkey boiler

No.	Description	When made	Where fixed
Made at	By whom made	No. of Certificate	Fire-grate area
Working pressure	tested by hydraulic pressure to	Date of test	Date of adjustment
Valves	No. of Safety Valves	Area of each	Pressure to which they are adjusted
If fitted with casing gear	If steam from main boilers can enter the donkey boiler	Dia. of donkey boiler	Length
Material of shell plates	Thickness	Range of tensile strength	Descrip. of riveting long. seams
Dia. of rivet holes	Whether punched or drilled	Pitch of rivets	Lap of plating
Working pressure of shell by rules	Thickness of shell crown plates	Radius of do.	No. of stays to do.
Diameter of furnace Top	Bottom	Length of furnace	Thickness of furnace plates
Working pressure of furnace by rules	Thickness of furnace crown plates	Radius of do.	Stays by
Diameter of uptake	Thickness of uptake plates	Thickness of water tubes	Dates of survey

SPARE GEAR. State the articles supplied:— 2 connecting rod top end nuts + bolts, 2 bottom end nuts + bolts, 2 main bearing bolts + nuts, 1 set coupling bolts, 1 set feed + bilge pump valves, assorted nuts, bolts + iron of various sizes. Piston rings, Section of the propeller crank shaft, spare propeller, 1 pair crank pin brasses, 1 pair crosshead brasses, 1 link block, 2 eccentric straps, air pump wd, HP MP valve spindles, spare check valves. Cylinder cover, junk ring + valve chest cover bolts, boiler tubes, condenser tubes, spare parts for all pumps, B.W. boiler + oil fuel fittings.

The foregoing is a correct description,

The Texas Steamship Co. Manufacturer.

Dates of Survey while building	During progress of work in shops --	1918 June 10, 20 Sept 7, 1919 Feb 3, 14, 21, 28 Mar 15, 19, 27, 29 Apr 16, 23, 28 May 6, 22, 25, 26, 27 June 5, 10, 14
	During erection on board vessel --	
	Total No. of visits	22.

Is the approved plan of main boiler forwarded herewith 20

Dates of Examination of principal parts—	Cylinders	Slides	Covers	Pistons	Rods
Connecting rods	✓	Crank shaft	✓	Thrust shaft	✓
Stern tube	✓	Steam pipes tested	16 Apr 1919	Engine and boiler seatings	20 June 1918
Completion of pumping arrangements	22 May 1919	Boilers fixed	28 Apr 1919	Engines tried under steam	10 June 1919
Main boiler safety valves adjusted	22 May 1919	Thickness of adjusting washers	Lock nuts fitted.	Identification Mark on Do.	F.H.T.
Material of Crank shaft	steel	Identification Mark on Do.	F.H.T.	Material of Thrust shaft	steel
Material of Tunnel shafts	✓	Identification Marks on Do.	✓	Material of Screw shafts	steel
Material of Steam Pipes	steel	Test pressure	600 lbs.	Identification Marks on Do.	F.H.T.

General Remarks (State quality of workmanship, opinions as to class, &c.) The machinery + boilers of this vessel have been built under Special Survey, as per Buffalo report 14 + New York report 14459 + LMC 6.19.

They have now been fitted on board in accordance with the Rules + approved plans, under Special Survey + the workmanship + material are good. The vessel is intended for oil fuel + the requirements of Sec. 149 have been complied with.

The machinery + boilers have been satisfactorily tried at full power at sea, + they are now in good + safe working condition, + eligible, in my opinion, to receive the notation + LMC 6.19 (in Red) in the Register Book, + 'Fitted for Oil fuel 6.19 F.P. above 150°F', subject to the watertube boilers being annually surveyed.

It is submitted that this vessel is eligible for THE RECORD, + LMC 6.19.

3 Water tube Boilers Fitted for Oil Fuel 6.19. FP above 150°F. Subject to Watertube Boilers being Surveyed Annually. R.H. 18/7/19.

The amount of Entry Fee .. £	\$ 15.00	When applied for,	18 June 1919
Special	239.25	When received,	26 June 1919
Buffalo Fitting	40.00		
Donkey Boiler Fee .. £	13.00		
N.Y.			
Travelling Expenses (if any) £			

Committee's Minute

Assigned

+ LMC 6.19 subject

New York JUL - 1 1919

WRITTEN in duplicate 16.7.19