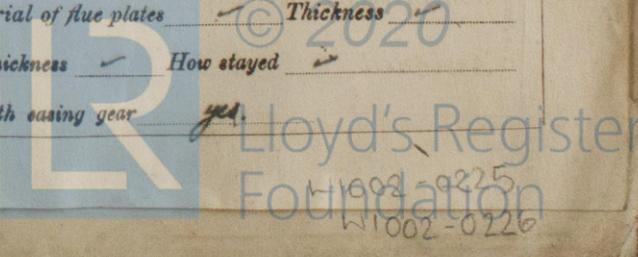


# REPORT ON MACHINERY.

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. SHENANDOAH (Number of Visits 22)  
 Master T. J. Cole Built at Bath, Me. By whom built The Fenaco Steamship Co. Tons Gross 6768 Net 5143  
 Engines made at Buffalo, N.Y. By whom made H. S. Trout Co. when made 1919  
 Boilers made at Bayonne N.J. By whom made Babcock + Wilcox Co. when made 1919  
 Registered Horse Power 556 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 26 1/2 - 44 - 74 Length of Stroke 51 Revs. per minute 75 Dia. of Screw shaft 15 1/2 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 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 14 3/4  
 Dia. of Tunnel shaft 14 3/4 Dia. of Crank shaft journals 14 3/4 Dia. of Crank pin 14 3/4 Size of Crank webs 28 x 10 Dia. of thrust shaft under collars 14 3/4 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 11 x 8 Stroke 26 Can one be overhauled while the other is at work yes  
 No. of Bilge pumps 2 Diameter of ditto 5 1/2 Stroke 24 Can one be overhauled while the other is at work yes  
 No. of Donkey Engines 2 duplex Sizes of Pumps Bilge + Ballast 12 x 10 x 12 Sanitary 6 x 6 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room 4-3 1/2 x 1-4 1/2 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 yes worked from yes

**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'-7 1/2" 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 3/32 x 4 9/16 Lap of plates or width of butt straps 15 inside  
 Per centages of strength of longitudinal joint rivets 95 Working pressure of shell by rules 284 lbs Size of manhole in shell 15 x 11  
 Size of compensating ring flanged 7/16" No. and Description of Furnaces in each boiler yes Material yes Outside diameter yes  
 Length of plain part top Thickness of plates crown Description of longitudinal joint yes No. of strengthening rings yes  
 Working pressure of furnace by the rules yes Combustion chamber plates: Material yes Thickness: Sides yes Back yes Top yes Bottom yes  
 Pitch of stays to ditto: Sides yes Back yes Top yes If stays are fitted with nuts or riveted heads yes Working pressure by rules yes  
 Material of stays yes Diameter at smallest part yes Area supported by each stay yes Working pressure by rules yes End plates in steam space: yes  
 Material Steel Thickness 19/32 Pitch of stays yes How are stays secured Drilled into 4 1/2" radius Working pressure by rules 204 lbs Material of stays yes  
 Diameter at smallest part yes Area supported by each stay yes Working pressure by rules yes Material of Front plates at bottom yes  
 Thickness yes Material of Lower back plate yes Thickness yes Greatest pitch of stays yes Working pressure of plate by rules yes  
 Diameter of tubes yes Pitch of tubes yes Material of tube plates yes Thickness: Front yes Back yes Mean pitch of stays yes  
 Pitch across wide water spaces yes Working pressures by rules yes Girders to Chamber tops: Material yes Depth and thickness of girder at centre yes Length as per rule yes Distance apart yes Number and pitch of stays in each yes  
 Working pressure by rules yes Superheater or Steam chest; how connected to boiler Tubes Can the superheater be shut off and the boiler worked separately yes Diameter yes Length 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 Diameter of flue yes Material of flue plates yes Thickness yes  
 If stiffened with rings yes Distance between rings yes Working pressure by rules yes End plates: Thickness yes How stayed yes  
 Working pressure of end plates yes 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.	Stayed 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 crank shaft, spare propeller, 1 pair crank pin brasses, 1 pair crosshead brasses, 1 link block, 2 eccentric straps, air pump rod, HP, MP valve spindle, spare check valves. Cylinder cover, junk ring + valve chest cover bolts, boiler tubes, condenser tubes, spare parts for all pumps, Br. 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	During erection on board vessel	Total No. of visits
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			22

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.M.T.
Material of Crank shaft	steel	Identification Mark on Do.	F.M.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.		

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 herewith.

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. Rell. 18/7/19.

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

John S. Heck. Engineer Surveyor to Lloyd's Register of British & Foreign Shipping

Committee's Minute Assigned + LMC 6.19 subject

New York JUL - 1 1919



© 2020 Lloyd's Register Foundation

WRITTEN in duplicate 167/19

Duplicate in Book

Certificate (if required) to be sent to