

REC'D NEW YORK OCT 27 1920

Rpt. 4.

REPORT ON MACHINERY.

No. 1414

Received at London Office

Date of writing Report 20.10.1920 When handed in at Local Office 22.10.1920 Port of Boston MON. NOV. 15 1920
No. in Survey held at Bath. Me. Date, First Survey June 5. 1920 Last Survey October 9 1920.
Reg. Book, on the Steel Screw steamer "HARVESTER" (Number of Violets 24.)
Master W. G. Stevens. Built at Bath. Me. By whom built The Texas Steamship Co. When built 1920.
Engines made at Buffalo. N. Y. By whom made H. G. Grant. Co. when made 1920
Boilers made at Bath. Me. By whom made Bath Iron Works. when made 1920
Registered Horse Power Owners The Texas Co. Port belonging to New York.
Nom. Horse Power as per Section 28 549 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 $26\frac{1}{2} \times 44 \times 74$ Length of Stroke 51 Revs. per minute 75 Dia. of Screw shaft as per rule $14\frac{1}{2}$ as fitted 15 Material of screw shaft O.H. 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 7'-3"
Dia. of Tunnel shaft as per rule 14 as fitted 14 Dia. of Crank shaft journals as per rule 14 as fitted 14 Dia. of Crank pin $14\frac{3}{4}$ Size of Crank webs 28×10 Dia. of thrust shaft under collars $14\frac{3}{4}$ Dia. of screw 17'-6" Pitch of Screw 17'-6" No. of Blades 4 State whether moveable Yes Total surface 100 sq. feet
No. of Feed pumps two Diameter of ditto 28" Stroke 26" Can one be overhauled while the other is at work Yes
No. of Bilge pumps 2 Diameter of ditto 54" Stroke 24" Can one be overhauled while the other is at work Yes
No. of Donkey Engines 2 Sizes of Pumps 12x10x12, 6x6x6 No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 4-3 $\frac{1}{2}$, 1-4 $\frac{1}{2}$ In Holds, &c. Oil cargo pumping system

No. of Bilge Injections 1 sizes 10" Connected to condenser, or 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 Yes
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 How are they protected
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

BOILERS, &c.—(Letter for record 5.) Manufacturers of Steel Lufkins Steel Co. Coatsville Pa.

Total Heating Surface of Boilers 7978.8 Is Forced Draft fitted Yes No. and Description of Boilers 3 Scotch Single ended
Working Pressure 190 lbs Tested by hydraulic pressure to 285 Date of test 16.9.20 No. of Certificate 40, 41, 42
Can each boiler be worked separately Yes Area of fire grate in each boiler oil fuel No. and Description of Safety Valves to each boiler 1 Spring loaded 3 $\frac{1}{2}$ " Area of each valve 19.24 Pressure to which they are adjusted 195 lbs Are they fitted with easing gear Yes
Smallest distance between boilers or uptakes and bunkers or woodwork 29" Mean dia. of boilers 15'-3" Length 11'-0" Material of shell plates O.H. Steel
Thickness 1 $\frac{1}{2}$ " Range of tensile strength 60,000 min Are the shell plates welded or flanged Flanged Descrip. of riveting: cir. seams double, long. seams 3 ply twisted Diameter of rivet holes in long. seams 1 $\frac{1}{2}$ " Pitch of rivets 3 $\frac{3}{4}$ + 8 $\frac{1}{2}$ Top of plates or width of butt straps 20 $\frac{1}{2}$
Per centages of strength of longitudinal joint rivets 97.84 plate 83.08 Working pressure of shell by rules 202.5 Size of manhole in shell 12" x 16"
Size of compensating ring 33 $\frac{3}{8}$ x 37 $\frac{3}{8}$ No. and Description of Furnaces in each boiler 3 Corrugated Material O.H. Steel Outside diameter 4'-1"
Length of plain part top 10 $\frac{1}{2}$ bottom 10 $\frac{1}{2}$ Thickness of plates crown 5 $\frac{1}{8}$ bottom 5 $\frac{1}{8}$ Description of longitudinal joint welded No. of strengthening rings 9
Working pressure of furnace by the rules 205.5 Combustion chamber plates: Material O.H. Steel Thickness: Sides 7 $\frac{1}{8}$ Back 5 $\frac{1}{8}$ Top 5 $\frac{1}{8}$ Bottom 7 $\frac{1}{8}$
Pitch of stays to ditto: Sides 6 $\frac{1}{2}$ Back 7 $\frac{1}{8}$ Top 8 $\frac{1}{2}$ If stays are fitted with nuts or riveted heads both Working pressure by rules 202.5
Material of stays Steel Area at smallest part 1.755 Area supported by each stay 52 Working pressure by rules 202.5 End plates in steam space:
Material O.H. Steel Thickness 1 $\frac{1}{2}$ Pitch of stays 16 $\frac{3}{4}$ How are stays secured nuts Working pressure by rules 244.2 Material of stays Steel
Area at smallest part 6.492 Area supported by each stay 276 Working pressure by rules 244.2 Material of Front plates at bottom O.H. Steel
Thickness 1 $\frac{1}{2}$ Material of Lower back plate O.H. Steel Thickness 1 $\frac{1}{2}$ Greatest pitch of stays 16 $\frac{3}{4}$ Working pressure of plate by rules 253
Diameter of tubes 2 $\frac{1}{2}$ Pitch of tubes 3 $\frac{1}{2}$ + 3 $\frac{5}{8}$ Material of tube plates Steel Thickness: Front 1 $\frac{1}{8}$ Back 1 $\frac{1}{8}$ Mean pitch of stays 7 $\frac{1}{8}$
Pitch across wide water spaces 13 $\frac{1}{2}$ Working pressures by rules 285 Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 9 $\frac{1}{2}$ x 7 $\frac{1}{2}$ Length as per rule 3'-0" Distance apart 8' Number and pitch of stays in each 4-6 $\frac{1}{2}$
Working pressure by rules 237.2 Steam dome: description of joint to shell % of strength of joint
Diameter Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes
Pitch of rivets Working pressure of shell by rules Crown plates Thickness How stayed

SUPERHEATER. Type Date of Approval of Plan Tested by Hydraulic Pressure to
Date of Test Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler
Diameter of Safety Valve Pressure to which each is adjusted Is Easing Gear fitted

005282-003289-0024

IS A DONKEY BOILER FITTED?

No.

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—One spare Section of crank shaft: 1 propeller shaft: 2 propeller blades: 2 pair crosshead trammers: bolts & nuts: 1 pair connecting rod trammers with bolts & nuts: 1 set link trammers & gibs complete: 2 eccentric straps complete: 1 air pump rod & sleeve, nut, washer: one H.P. & one L.P. valve spindle: 6 cyr. cover bolts: 6 pump ring bolts: 6 valve chest studs & nuts: 24 boiler tubes: 36 condenser tubes: 1 cyr. escape valve & spring: 1 set safety valve springs: 2 main bearing bolts & nuts: 6 coupling bolts & nuts & pins: 1 set feed & bilge pump valves: 1 set piston rings for each cylinder:

The foregoing is a correct description,
THE TEXAS STEAMSHIP CO.

George R. Ogden Sept. Manufacturer. The Texas Steamship Co.

Dates of Survey while building
During progress of work in shops -- June 15. July 1. 22. 30: Aug 3. 18. 23. 26. 30.
During erection on board vessel -- June 5. 23. 25: July 21. 30: Aug 10. 23: Sept. 21. 22. 23. 25. 30: Oct 2. 5.
Total No. of visits 24

Is the approved plan of main boiler forwarded herewith

Yes

" " " donkey " " "

Dates of Examination of principal parts—Cylinders Slides Covers Pistons Rods

Connecting rods Crank shaft Thrust shaft Tunnel shafts Screw shaft Propeller

Stern tube Steam pipes tested Sept 23 Engine and boiler seatings June 5 Engines holding down bolts Aug 10

Completion of pumping arrangements Sept 27 Boilers fixed Sept 25 Engines tried under steam Oct. 23

Completion of fitting sea connections Oct. 23 Stern tube June 25 Screw shaft and propeller July 30

Main boiler safety valves adjusted Oct 23 Thickness of adjusting washers Adjusting lock nuts

Material of Crank shaft Steel Identification Mark on Do. 160 LR Material of Thrust shaft Steel Identification Mark on Do. F.W.T.

Material of Tunnel shafts Steel Identification Marks on Do. F.W.T. Material of Screw shafts Steel Identification Marks on Do. F.W.T.

Material of Steam Pipes Steel Test pressure 600 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 VIRGINIA Boston

General Remarks (State quality of workmanship, opinions as to class, &c. The machinery & boilers of

this vessel have been built and fitted on board under Special Survey and in accordance with the rules and approved plans.

The boilers have been fitted to burn liquid fuel, in accordance with the requirements of the Rules for high flash point fuel.

The machinery and boilers have been satisfactorily tried under steam and they are eligible in my opinion to receive the record of + L.M.C. 10-20, and the notations "Fitted for Oil Fuel, F.P. above 150°F. in the Register Book.

The material & workmanship are good throughout.

Also for Forced Draft to have notation in the Register Book of F.D. Buffalo report #73 herewith.

It is submitted that this vessel is eligible for THE RECORD. + LMC 10.20 FD Fitted for Oil Fuel 10.20. FP above 150°F

Rel 24/10/20.

John S. Heck.

Wm Stewart.

Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... £ \$ 15.00: When applied for, 23 Oct 1920
Special 2/3 ... £ 159.50:
Buffalo 1/3 ... £ 79.50:
Donkey Boiler Fee ... £ 40.00:
Forgings ... £ 49.00:
Travelling Expenses (if any) £ 49.00:
NY expenses

Committee's Minute New York NOV - 3 1920

Assigned

CERTIFICATES WRITTEN 2 15/11/20



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