

Rpt. 4.

REPORT ON MACHINERY.

No. 1430

MON. 3 JAN. 1921

Received at London Office

Date of writing Report 9.12.1920 When handed in at Local Office 9.12.1920 Port of Boston, Mass.

No. in Survey held at Bath, Me. Date, First Survey 9-9-20 Last Survey 22-11-1920
Reg. Book. on the Steel screw steamer "REAPER" (Number of Visits 26)Master A.C. Chaney 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 The Bath Iron Works Ltd when made 1920Registered Horse Power Owners The Texas Company 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 $14\frac{3}{4}$ as fitted 15" Material of screw shaft D.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 14" 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 10" as fitted 14" Dia. of Crank pin 14" Size of Crank webs 28" x 10" Dia. of thrust shaft under

collars 14" Dia. of screw 17" Pitch of Screw 17" No. of Blades 4 State whether moveable Yes Total surface 100 sq. feet.

No. of Feed pumps 2 Diameter of ditto 14" Stroke 26" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 5" Stroke 24" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 2 Sizes of Pumps 12" x 10" x 12" 6" x 6" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 4-3", 1-4" 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 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 Yes

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 Is it fitted with a watertight door worked from

BOILERS, &c.—(Letter for record S)

Manufacturers of Steel

Lukens 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 3SB

Working Pressure 190 lbs Tested by hydraulic pressure to 285 lbs Date of test 2-11-20: 5-11-20 No. of Certificate 43,44,45

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" Area of each valve 19.24" Pressure to which they are adjusted 195 Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork about 30" Mean dia. of boilers 15'-3" Length 11'-0" Material of shell plates D.H. Steel

Thickness 1" Range of tensile strength 60,000 to 71,680 Are the shell plates welded or flanged Flanged Descrip. of riveting: cir. seams Dbl riv.

long. seams 3 ply riveted Diameter of rivet holes in long. seams 1" Pitch of rivets 3" + 18" Top of plates on width of butt straps 20"

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" x 37" No. and Description of Furnaces in each boiler 3 Corrugated Material D.H. Steel Outside diameter Corrug.

Length of plain part top 10" bottom 10" Thickness of plates crown 5" bottom 5" Description of longitudinal joint welded No. of strengthening rings Corrugated

Working pressure of furnace by the rules 205.5 Combustion chamber plates: Material D.H. Steel Thickness: Sides 5" Back 5" Top 5" Bottom 7"

Pitch of stays to ditto: Sides 6" Back 7" Top 8" x 6" 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 D.H. Steel Thickness 1" Pitch of stays 16" How are stays secured nuts Working pressure by rules 244.2 Material of stays Steel

Area at smallest part 1.492" Area supported by each stay 276" Working pressure by rules 244.2 Material of Front plates at bottom D.H. Steel

Thickness 1" Material of Lower back plate D.H. Steel Thickness 1" Greatest pitch of stays 16" Working pressure of plate by rules 253

Diameter of tubes 2" Pitch of tubes 3" + 3" Material of tube plates D.H. Steel Thickness: Front 1" Back 1" Mean pitch of stays 7"

Pitch across wide water spaces 13" Working pressures by rules 285 Girders to Chamber tops: Material Steel Depth and

thickness of girder at centre 9" x 7" Length as per rule 3'-0" Distance apart 8" Number and pitch of stays in each 4-6" pitch.

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

002101-02108-0175

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 trusses: bolts + nuts: 1 pair connecting rod truss with bolts + nuts: 1 set
link trusses + gibs complete: 2 eccentric straps complete: 1 air pump rod + sleeve, nut
+ washer: One H.P. + one L.P. valve spindle: 6 cyl. cover bolts: 6 junk ring bolts: 6 valve
chest studs + nuts: 24 boiler tubes: 36 Condenser tubes: 1 cyl. escape valve + spring: 1 set
Safety valve springs: 2 main bearing bolts + nuts: 6 coupling bolts + nuts + pins: 1 set of feed
valve pump valves: 1 set of piston rings for each cylinder.

The foregoing is a correct description,
The Texas Steamship Co
per G. B. D. O. & Co. Mgr.

Manufacturer.

Dates of Survey while building { During progress of work in shops -- 1920 - September 22, 29; October 5, 14, 16, 20, 27, 29; November 2.
During erection on board vessel -- 1920 - September 9; October 5, 16, 20, 21, 22, 25, 27, 29; November 2, 3, 10, 13, 20, 20, 26.
Total No. of visits 26.

Is the approved plan of main boiler forwarded herewith

Yes.

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 10. 11. 20 Engine and boiler seatings 2. 10. 20 Engines holding down bolts 25. 10. 20

Completion of pumping arrangements 2. 11. 20 Boilers fixed 10. 11. 20 Engines tried under steam 20. 11. 20

Completion of fitting sea connections 10. 11. 20 Stern tube 20. 10. 20 Screw shaft and propeller 21. 10. 20; 22. 10.

Main boiler safety valves adjusted 22. 11. 20 Thickness of adjusting washers Adjusting lock nuts

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

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

Material of Steam Pipes Steel Test pressure 750 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. "HARVESTER".

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. - 11.20: and the notations in the Register Book:— "Fitted for Oil fuel, F.P. above 150°F" and "F.D." for Forced Draft. Buffalo Report # 80 herewith

It is submitted that

this vessel is eligible for

THE RECORD. + L.M.C. 11.20 F.D.

FITTED FOR OIL FUEL 11.20. F.P. ABOVE 150°F.

Roll

6/1/21

Wm Stewart

The amount of Entry Fee ... \$ 15 : 00 :

L.M.C. Special Bos 2/3 ... \$ 159 : 50 :

L.M.C. Buffalo Donkey Boiler Fee 1/3 ... \$ 79 : 75 :

Expenses (if any) \$ 40 : 00 :

When applied for,

7. 12. 1920

When received,

11/12/20

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute New York DEC 14 1920

Assigned + L.M.C. 11.20

MACHINERY CERT
WRITTEN
in duplicate
3. 1. 21



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Lloyd's Register
Foundation