

Rpt. 4.

REPORT ON MACHINERY.

No. 20162

WED. 27 APR. 1921

Date of writing Report March 16 1921 When handed in at Local Office March 17 1921 Port of New York
 No. in Survey held at Staten Island Date, First Survey 11 March 1921
 Reg. Book. S.S. "SAN TIBURCIO" (Hull No 29) (Number of Visits)
 on the S.S. "SAN TIBURCIO" Tons { Gross
 Master PIPER Built at New York By whom built Standard S.B. Corporation When built 1921
 Engines made at Chester Pa. By whom made Standard S.B. Co. when made 1921
 Boilers made at New York By whom made Standard S.B. Corp. when made 1921
 Registered Horse Power 544 Owners Eagle Oil Transport Co Port belonging to London
 Nom. Horse Power as per Section 28 544 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple Exp. Vertical Inverted No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 27" x 45" x 74" Length of Stroke 48" Revs. per minute 80 Dia. of Screw shaft 14.82" Material of Steel
 as per rule 15.625" as fitted 15.625" screw shaft
 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 64"
 Dia. of Tunnel shaft 13.4" as per rule 14.05" as fitted 14.5" Dia. of Crank shaft journals 14.5" as per rule 14.5" as fitted 14.5" Dia. of Crank pin 14.5" Size of Crank webs 27 1/2" x 9 1/2" Dia. of thrust shaft under
 collars 14 1/4" Dia. of screw 17-9" Pitch of Screw 17'-0" No. of Blades 4 State whether moreable No Total surface 101"
 No. of Feed pumps 2 WERS Diameter of ditto 8 x 10 1/2" Stroke 21" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 4" Stroke 26" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 5 Sizes of pumps FOR BALLAST. 8" x 8" x 10" DUPLEX
 In Engine Room 7 @ 3 1/2" No. and size of Suctions connected to both Bilge and Donkey pumps
 Pump Room 2 @ 4", 2 @ 2 1/2", Aff. Cofferdam 1 @ 3 1/2" In Holds, &c. For Hold 2 @ 2 1/2" Forward Coff. 1 @ 4"
 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 1/2"
 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 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 Just 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 bunkers only 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 None Is it fitted with a watertight door — worked from —

BOILERS, &c.—(Letter for record S) Manufacturers of Steel LUKENS.
 Total Heating Surface of Boilers 8160" Is Forced Draft fitted Yes No. and Description of Boilers 3 Scotch
 Working Pressure 180 lb Tested by hydraulic pressure to 320 Date of test 25 JAN 21 No. of Certificate 443
28 JAN 21 13 FEB 21 445
 Can each boiler be worked separately Yes Area of fire grate in each boiler 67" No. and Description of Safety Valves to
 each boiler 2 Spring loaded Area of each valve 9.6" Pressure to which they are adjusted 185 Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 2 feet Mean dia. of boilers 15'-6" Length 11'-7" Material of shell plates Steel
 Thickness 1 1/32" Range of tensile strength 60,000 lb/in² Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D.R.
 long. seams T.R.D.B.S. Diameter of rivet holes in long. seams 1 1/16" Pitch of rivets 8 3/4" Lap of plates or width of butt straps 21"
 Per centages of strength of longitudinal joint 98 Working pressure of shell by rules 194 Size of manhole in shell 18" x 22"
 plate 83.6 Size of compensating ring 38" x 34" No. and Description of Furnaces in each boiler 3 Morrison Material Steel Outside diameter 49 5/8"
 Length of plain part top Thickness of plates crown 37" Description of longitudinal joint weld No. of strengthening rings None
bottom 64" Working pressure of furnace by the rules 186 Combustion chamber plates: Material Steel Thickness: Sides 19" Back 19" Top 19" Bottom 7"
 Pitch of stays to ditto: Sides 7 1/2" x 7 1/4" Back 7 1/2" x 7 1/4" Top 8" x 7 1/2" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 223
 Material of stays Steel Area at smallest part 1.48" Area supported by each stay 57.4 Working pressure by rules 197 End plates in steam space:
 Material Steel Thickness 1 1/32" Pitch of stays 17" x 17" How are stays secured D.NOTS. Working pressure by rules 186 Material of stays Steel
 Area at smallest part 5.94" Area supported by each stay 289" Working pressure by rules 186 Material of Front plates at bottom Steel
 Thickness 3/4" Material of Lower back plate Steel Thickness 3/4" Greatest pitch of stays 13 3/4" x 7 1/2" Working pressure of plate by rules 223
 Diameter of tubes 2 1/2" Pitch of tubes 3 3/4" x 3 1/2" Material of tube plates Steel Thickness: Front 3/4" + 5/8" Back 3/4" Mean pitch of stays 9.125"
 Pitch across wide water spaces 13 3/4" Working pressures by rules 180 Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 10" x 1 3/8" Length as per rule 2'-7 1/4" Distance apart 8" Number and pitch of stays in each 3 @ 7 1/2"
 Working pressure by rules 237 Steam dome: description of joint to shell None % 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 None 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 —

Lloyd's Register
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IS A DONKEY BOILER FITTED? *No*If so, is a report now forwarded? */*

SPARE GEAR. State the articles supplied:— 4 top end bolts and nuts, 2 bottom end bolts & nuts, 2 main bearing bolts and nuts, 1 set coupling bolts, set feed & bilge pump valves, 1 set rings for each main engine piston, assorted bolts and nuts, iron of various sizes.

1 Tail shaft and propeller, 1 eccentric strap complete, 1 link block complete, 1 set crank pin brasses, 2 sets crosshead brasses, 1 guide shoe, 1 air pump rod and nut, piston rod, and impeller with shaft for circulating pump, set feed check valves, 12 junk ring studs & nuts, 2 dog boiler tubes, 20 condenser tubes, 50 ferrules, 2 M.B. Safety valve springs, set of metallic packing &c.

The foregoing is a correct description,

STANDARD SHIPBUILDING CORPORATION

D. J. Moffat

SUPERINTENDING ENGINEER

Manufacturer.

Dates of Survey while building: During progress of work in shops — 1920: Apr 28, May 12, 18, 25, Jun 29, Oct 1, Nov 1, 3, 8, 12, 15, 17, 19, 26, 29, Dec 4, 8, 10, 11, 15, 17, 18, 22, 24, 29, 1921: Jan 4, 7, 12

During erection on board vessel — 14, 17, 19, 21, 25, 28, 29, Feb 1, 3, 7, 9, 10, 14, 16, 23, 24, Mar 1, 4, 7, 10, 11, 21

Total No. of visits 50

Is the approved plan of main boiler forwarded herewith *No*

" " " donkey " " " " "

Dates of Examination of principal parts: Cylinders — Philadelphia Report Slides attached Covers — Pistons — Rods —

Connecting rods — Crank shaft — Thrust shaft — Tunnel shafts 14 Jan '21 Screw shaft 14 Jan '21 Propeller 29 Dec '21

Stern tube 14 Jan '21 Steam pipes tested 23 Feb '21 Engine and boiler seatings 29 Jan '21 Engines holding down bolts 23 Feb '21

Completion of pumping arrangements 7 March '21 Boilers fixed Feb 7 '21 Engines tried under steam March 4 '21

Completion of fitting sea connections 29 Jan '21 Stern tube 19 Jan '21 Screw shaft and propeller 28 Jan '21

Main boiler safety valves adjusted 4 March '21 Thickness of adjusting washers F. (9/16) (9/16) A. F. (3/8) (11/16) A. F. (5/8) (5/16)

Material of Crank shaft — See Phila. Report Identification Mark on Do. Material of Thrust shaft — Identification Mark on Do. WORKING 549-113 SPARE 549-113

Material of Tunnel shafts — Steel Identification Marks on Do. 549-117 W.C. Material of Screw shafts — Steel Identification Marks on Do. 549-113

Material of Steam Pipes — Seamless Steel Test pressure 540 lb.

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 *"SAN TEODORO"*

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

The Engines were built at Chesapeake (See Phila Rpt 4065). The boilers have been constructed of tested material under special survey in accordance with the approved plan. The machinery has been installed in a workmanlike manner by the builders and the materials are good.

In my opinion the vessel is eligible for the record + L.M.C. 3.21 and the notation "Fitted for oil fuel 3.21. F.P. above 150°F."

Forging reports to be forwarded with Hull 31 ("San Ugon")

It is submitted that this vessel is eligible for

THE RECORD. + L.M.C. 3.21 F.P. C4

Fitted for Oil Fuel 3.21. F.P. above 150°F.

The amount of Entry Fee ... \$30.15 When applied for, 15/3.30 NY 13/4/21

Special ... \$5.11 102.30 Phila

Donkey Boiler Fee ... \$2.00 100.00

Travelling Expenses (if any) ... \$7.50 107.50

Committee's Minute New York APR 12 1921

Assigned

+ L.M.C. 3.21

MACHINERY CERTIFICATE

WRITTEN 12/5/21

When received, 15/8/21

Engineer Surveyor to Lloyd's Register of Shipping.

Alex. Lawrence

FRI. JUN. 16 1922

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