

REPORT ON MACHINERY.

No. 2555

REC'D NEW YORK

April 24, 1917

Received at London Office

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Date of writing Report 24th March 1917 When handed in at Local Office 24th March 1917 Port of Philadelphia, Pa.

No. in Survey held at Camden N. J. Date, First Survey 18th Oct 1915 Last Survey 27th March 1917
Reg. Book. on the S.S. "Gulfmaid" (Number of Visits 65)

Master Built at Camden By whom built New York P. B. Corp (No 172) When built 1917

Engines made at Camden By whom made New York P. B. Corp when made 1917

Boilers made at Camden By whom made Do when made 1917

Registered Horse Power Owners Gulf Refining Co Port belonging to Port Arthur

Nom. Horse Power as per Section 28 543 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 27" 45" 75" Length of Stroke 48" Revs. per minute 75 Dia. of Screw shaft as per rule 15" Material of screw shaft as fitted 15 1/2" 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 5'-9"

Dia. of Tunnel shaft as per rule 13.64 Dia. of Crank shaft journals as per rule 14.3 Dia. of Crank pin 15" Size of Crank webs 11" 24" Dia. of thrust shaft under

collars 14 3/4" Dia. of screw 18" 0" Pitch of Screw 18" 3" No. of Blades 4 State whether moveable Yes Total surface 74 sq ft

No. of Feed pumps 2 Diameter of ditto 12" 8 1/2" Stroke 18" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 4 1/2" Stroke 22" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 4 Sizes of Pumps 12" 10" 12" 20" 5 1/4" 6" 6" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room & Blr Room 6-3 1/2" In Holds, &c. After pump room 1-3 1/2" + 2-3" : 1-3" in cofferdam

No. of Bilge Injections 1 sizes 10" Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size Yes - 3 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 Yes

Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks No

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 Above

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 None How are they protected Yes

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 Yes worked from Yes

BOILERS, &c.—(Letter for record +) Manufacturers of Steel Work Bros

Total Heating Surface of Boilers 7843 Is Forced Draft fitted Yes No. and Description of Boilers 3 Single Ended

Working Pressure 190 lbs Tested by hydraulic pressure to 285 lbs Date of test 22.5.16 No. of Certificate 95

Can each boiler be worked separately Yes Area of fire grate in each boiler 57.75 sq ft No. and Description of Safety Valves to

each boiler double spring loaded Area of each valve 8.29 sq in Pressure to which they are adjusted 190 Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 9" Mean dia. of boilers 14' 8" Length 11' 0" Material of shell plates steel

Thickness 1 1/8" Range of tensile strength 29/32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D. Riv

long. seams T.R.D.B.S. Diameter of rivet holes in long. seams 1 7/16" Pitch of rivets 9 5/16" Lap of plates or width of butt straps 20 1/4"

Per centages of strength of longitudinal joint rivets 90.3 plate 84.5 Working pressure of shell by rules 199 Size of manhole in shell 16" x 12"

Size of compensating ring 3' 1 1/2" x 8" x 1 1/8" No. and Description of Furnaces in each boiler 3 corrugated Material steel Outside diameter 2' 10 1/8"

Length of plain part top 19" Thickness of plates crown 19" bottom 32" Description of longitudinal joint welded No. of strengthening rings

Working pressure of furnace by the rules 204 Combustion chamber plates: Material steel Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 5/8" A.B.

Pitch of stays to ditto: Sides 7" x 7" Back 7 1/2" x 7" Top 7 1/2" x 7" If stays are fitted with nuts or riveted heads No Working pressure by rules 256

Material of stays iron Area at smallest part 1.7 Area supported by each stay 52.5 Working pressure by rules 194 End plates in steam space:

Material steel Thickness 1 1/8" Pitch of stays 16 5/8" x 15 1/4" How are stays secured D. Nuts Working pressure by rules 217 Material of stays steel

Area at smallest part 5.93 Area supported by each stay 345.9 Working pressure by rules 250 Material of Front plates at bottom steel

Thickness 3/4" Material of Lower back plate steel Thickness 3/4" Greatest pitch of stays 14 1/4" x 7 1/2" Working pressure of plate by rules 337

Diameter of tubes 2 1/2" Pitch of tubes 3 1/2" x 3 3/4" Material of tube plates steel Thickness: Front 4 x 16 Back 3/4" Mean pitch of stays 9 1/8"

Pitch across wide water spaces 13 1/2" Working pressures by rules 235 Girders to Chamber tops: Material steel Depth and

thickness of girder at centre 9" x 20 1/8" Length as per rule 2' 9 1/2" Distance apart 7 1/2" Number and pitch of stays in each 4 @ 7"

Working pressure by rules 252 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

iameter of Safety Valve Pressure to which each is adjusted Is Easing Gear fitted

SS. "Sulphurmaid"

IS A DONKEY BOILER FITTED? Yes If so, is a report now forwarded? Yes

SPARE GEAR. State the articles supplied:— 2 connecting rod top end bolts & nuts: 2 connecting rod bottom end bolts & nuts: 2 main bearing bolts: 1 set of coupling bolts: 1 set of large pump valves: a quantity of assorted bolts & nuts: iron of various sizes: 1 propeller shaft: one propeller blade: 1 set of feed pump valves: one eccentric strap

The foregoing is a correct description,

New York Shipbuilding Corporation Manufacturer.

Dates of Survey while building: During progress of work in shops: 1915 Dec 14, 1916 Jan 4, 11, 19, 21, 25, 28, Feb 1, 4, 5, 11, 15, 18, 22, 27, Mar 1, 8, 15, 22, 24, 28, 31 to 18th Jan 1917
During erection on board vessel: Feb 7, 12, 24, 28, Mar 6, 12, 13, 20, 22, 27
Total No. of visits: 65
Is the approved plan of main boiler forwarded herewith Yes
" " " donkey " " " Yes

Dates of Examination of principal parts—Cylinders 28.3.16 Slides 12.10.16 Covers 28.3.16 Pistons 4.1.17 Rods 4.1.17
Connecting rods 12.10.16 Crank shaft 4.5.16 Thrust shaft 16.5.16 Tunnel shafts ✓ Screw shaft 12.2.17 Propeller 12.2.17
Stern tube 12.2.17 Steam pipes tested 13.3.17 Engine and boiler seatings 7.2.17 Engines holding down bolts 12.3.17
Completion of pumping arrangements 27.3.17 Boilers fixed 24.2.17 Engines tried under steam 22.3.17
Completion of fitting sea connections 6.3.17 Stern tube 24.2.17 Screw shaft and propeller 24.2.17
Main boiler safety valves adjusted 22.3.17 Thickness of adjusting washers lock nuts fitted
Material of Crank shaft Steel Identification Mark on Do. 172 Material of Thrust shaft steel Identification Mark on Do. 172
Material of Tunnel shafts none Identification Marks on Do. ✓ Material of Screw shafts steel Identification Marks on Do. 172
Material of Steam Pipes Steel ✓ Test pressure 600 lbs per sq in ✓
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 "Sulphurmaid" (Nº 930 in R.B.)

General Remarks (State quality of workmanship, opinions as to class, &c.)
The machinery of this vessel has been built under special survey: the material and workmanship being good, and proved satisfactory on steam trial
It is submitted that this vessel be eligible for a record of + L.M.C. 3.17 in the Register Book.

It is submitted that this vessel is eligible to THE RECORD. + L.M.C. 3.17. F.D.

Fitted for oil fuel 3.17. F.P. above 150°F.

J.W.D. 16/5/17. G.R.S.

The amount of Entry Fee ... \$ 15-00: When applied for, 19
Special ... \$ 235-75
Donkey Boiler Fee ... £ : : When received, 23/5/17
Travelling Expenses (if any) \$ 7-00

A. T. Thomas
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute New York APR 26 1917
Assigned + L.M.C. 3.17

MACHINERY CERTIFICATE
WRITTEN 14.5.17

Fitted for Oil Fuel 3.17 F.P. above 150°F.