

Rpt. 4.

REPORT ON MACHINERY.

No. 27101.

Date of writing Report *29 Dec 1926* When handed in at Local Office *29 Dec 1926* Port of *New York & Philadelphia*
 No. in Survey held at *Hoboken N.J.* Date, First Survey *20 August* Last Survey *27 Oct. 1926*
 Reg. Book. *Cheney, Pa.* (Number of Visits *5*) DEC. 1926
 on the *STEEL STERNWHEELER "CASCAJALES"*

Master ☒ Built at *Chester, Pa.* By whom built *Sun Sp Co* Total *12* Tons Gross *444* Net *381*
 Engines made at *Kearny N.J.* By whom made *Federal Sp Co* when made *1926*
 Boilers made at *Schenectady* By whom made *American Locomotive Co* when made *1926*
 Registered Horse Power *285* Owners *Tropical Oil Co.* Port belonging to *Savannah, Colombia*
 Nom. Horse Power as per Section 28 *285* Is Refrigerating Machinery fitted for cargo purposes ☒ Is Electric Light fitted ☒

ENGINES, &c.—Description of Engines *Horizontal Compound* No. of Cylinders *4* No. of Cranks *2*
 Dia. of Cylinders *2 x 15" & 2 x 30"* Length of Stroke *84"* Revs. per minute *24* Dia. of *Propeller* shaft as per rule *13 1/2"* Material of *cast steel*
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube ☒ Is the after end of the liner made water tight
 the propeller boss ☒ 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
 are fitted, is the shaft lapped or protected between the liners ☒ Length of stern bush *13 1/2"*
 Dia. of Tunnel shaft as per rule *13 1/2"* Dia. of Crank shaft journals as per rule *13 1/2"* Dia. of Crank pin *7"* Size of Crank webs *7"* Dia. of thrust shaft under
 lars ☒ Dia. of screw ☒ Pitch of Screw ☒ No. of Blades ☒ State whether moveable ☒ Total surface ☒
 of Feed pumps ☒ Diameter of ditto ☒ Stroke ☒ Can one be overhauled while the other is at work ☒
 of Bilge pumps ☒ Diameter of ditto ☒ Stroke ☒ Can one be overhauled while the other is at work ☒
 of Donkey Engines *See list* Sizes of Pumps *See list* No. and size of Suctions connected to both Bilge and Donkey pumps
 Engine Room ☒ In Holds, &c. *6-4" suction from fore hold & nos. 5, 6 & 7*
also to bilge ejectors. 2-2 1/2" suction from no. 5 hold to hand bilge pumps.
 of Bilge Injections ☒ sizes ☒ Connected to condenser, or to circulating pump ☒ Is a separate Donkey Suction fitted in Engine room & size *no*
 all the bilge suction pipes fitted with roses ☒ Are the roses in Engine room always accessible ☒ Are the sluices on Engine room bulkheads always accessible ☒
 all connections with the sea direct on the skin of the ship ☒ Are they Valves or Cocks *Valves*
 they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates ☒ Are the Discharge Pipes above or below the deep water line *at L.W.L.*
 they each fitted with a Discharge Valve always accessible on the plating of the vessel ☒ Are the Blow Off Cocks fitted with a spigot and brass covering plate *fitted with spigot & steel flange riveted to outside of shell plating.*
 at pipes are carried through the bunkers *F.O. SUCTIONS, CARGO MAINS, BOILER BLOWS & YSEPARATOR DRAINS, & TANK OVERFLOWS* How are they protected ☒
 all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times ☒
 the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges ☒
 the Screw Shaft Tunnel watertight ☒ Is it fitted with a watertight door ☒ worked from ☒

ERS, &c.—(Letter for record) Manufacturers of Steel *See separate Report.*
 Heating Surface of Boilers Is Forced Draft fitted No. and Description of Boilers
 Working Pressure Tested by hydraulic pressure to Date of test No. of Certificate
 each boiler be worked separately Area of fire grate in each boiler No. and Description of Safety Valves to
 boiler Area of each valve Pressure to which they are adjusted Are they fitted with easing gear
 least distance between boilers or uptakes and bunkers or woodwork Mean dia. of boilers Length Material of shell plates
 kness Range of tensile strength Are the shell plates welded or flanged Descrip. of riveting: cir. seams
 seams Diameter of rivet holes in long. seams Pitch of rivets Lap of plates or width of butt straps
 centages of strength of longitudinal joint rivets Working pressure of shell by rules Size of manhole in shell
 of compensating ring No. and Description of Furnaces in each boiler Material Outside diameter
 th of plain part top Thickness of plates crown Description of longitudinal joint No. of strengthening rings
 bottom Working pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Back Top Bottom
 of stays to ditto: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules
 erial of stays Area at smallest part Area supported by each stay Working pressure by rules End plates in steam space:
 erial Thickness Pitch of stays How are stays secured Working pressure by rules Material of stays
 at smallest part Area supported by each stay Working pressure by rules Material of Front plates at bottom
 kness Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules
 eter of tubes Pitch of tubes Material of tube plates Thickness: Front Back Mean pitch of stays
 across wide water spaces Working pressures by rules Girders to Chamber tops: Material Depth and
 ness of girder at centre Length as per rule Distance apart Number and pitch of stays in each
 king pressure by rules Steam dome: description of joint to shell % of strength of joint
 eter Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes
 of rivets Working pressure of shell by rules Crown plates Thickness How stayed
 ERHEATER. Type Date of Approval of Plan Tested by Hydraulic Pressure to
 of Test Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler
 ter of Safety Valve Pressure to which each is adjusted Is Easing Gear fitted

U11234 - 0154 1/2

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IS A DONKEY BOILER FITTED?

no.

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— one wheel shaft and web, complete crank pin bearings, one crank wheel bearing, complete valve gear bearing, two sets of valve spindles, two sets of H.P. & L.P. piston rings, two sets of main engine packing, 3 safety valve springs, 3 bottom blow-off valves, 3 auxil. stop valves, 3 main stop valves, 3 surface blow-off valves, 6 main feed valves, 6 auxil. feed valves, 50 condenser tubes & 50 ferrules, complete set nozzles for radio jet, set of brushes & holders for generator, spares for all auxiliary engines.

The foregoing is a correct description,

Sun Shipbuilding Co
Engine 99.

Federal Ship & H. P. Co
Supt of Machinery Manufacturer.

Dates of Survey while building
During progress of work in shops --
During erection on board vessel --
Total No. of visits

1916- Aug. 20, Sept. 24, Oct. 18, 24, 27.
Nov. 9, 11, 17, 19, 21, 29, Dec. 10.
12.

Is the approved plan of main boiler forwarded herewith

YES.

Dates of Examination of principal parts—Cylinders 8-20-26 Slides 10/18/24/27/26
Connecting rods 9-14-26 Crank shaft 28-10-26 Thrust shaft Tunnel shafts Screw shaft Propeller
Stern tube Steam pipes tested 11-11-26 Engine and boiler seatings 9-11-26 Engines holding down bolts 11-11-26
Completion of pumping arrangements 22-11-26 Boilers fixed 17-11-26 Engines tried under steam 29-11-26
Completion of fitting sea connections 9-11-26 Stern tube Thickness of adjusting washers
Main boiler safety valves adjusted 29-11-26 Identification Mark on Do. 24/11-26 Material of Thrust shaft Identification Marks on Do.
Material of Crank shaft C.H. Steel Identification Marks on Do. Material of Screw shafts Test pressure 675 lbs. 11-26
Material of Tunnel shafts Identification Marks on Do. Is the flash point of the oil to be used over 150°F.
Material of Steam Pipes steel Is an installation fitted for burning oil fuel
Have the requirements of Section 49 of the Rules been complied with
Is this machinery duplicate of a previous case

General Remarks

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

This engine has been constructed under special survey and in accordance with plans submitted and approved. Materials have been tested in accordance with the rules. The workmanship and materials are good and sound. The engine has now been shipped to the Sun Shipbuilding and Dry-Dock Co Chester Pa. for installation on Hull #99.

The engines and boilers have been satisfactorily fitted on board, and on completion were given a full speed trial and found to run satisfactorily. In my opinion they are eligible for the record of

LMC 12-26

It is submitted that this vessel is eligible for THE RECORD + LMC 12-26.

Fitted for oil fuel 12-26. F.P. above 150°F.

Credit N.Y. with 75 of freight

The amount of Entry Fee \$20.00
Special Fee \$338.75
Donkey Boiler Fee \$5.00 (N.Y.)
Travelling Expenses (if any) \$10.00 (PHILA.)

When applied for, 4 Jan. 1927
When received, 26/2/27

H. Mac Watt

Engineer Surveyors to Lloyd's Register of Shipping

Committee's Minute

Assigned + LMC 12-26

Note Steam Pressure 225 lbs. 11-26
Elec. light

CERTIFICATE WRITTEN 22/1/27



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STERNWHEELER "CASCAJALES"

LIST OF PUMPS.

- 1- "WILSON-SNYDER" 8"X5"X12" HORIZ: DUPLEX MAIN FEED PUMP. ✓
- 1- " " " " " " AUX: FEED & FIRE PUMP. ✓
- 1- "WHEELER" 8" CIRCULAR PUMP, WITH 6"X6" SINGLE ENGINE. ✓
- 1- " " 6"X5 $\frac{3}{4}$ "X6" HORIZ: DUPLEX CONDENSATE PUMP. ✓
- 2- " " 5.35", SINGLE STAGE RADIO-JET AIR PUMPS. ✓
- 1- "WORTHINGTON" 7 $\frac{1}{2}$ "X5"X12" HORIZ: DUPLEX, SETTLING TANK PUMP. ✓
- 1- " " " " " " SANITARY PUMP. ✓
- 1- " " " " " " DOMESTIC WATER PUMP. ✓
- 1- "PENBERTHY" 2 $\frac{1}{2}$ " AUTO-POSITIVE FEED INJECTOR. ✓
- 1- " " 2" AUTOMATIC INJECTOR FOR FIRE LINE. ✓
- 6- " " 3" BILGE EJECTORS.
- 1- GOULDS "CHALLENGE" 2 $\frac{1}{2}$ " HAND PUMP FOR FIRE SYSTEM. ✓
- 1- " " 2 $\frac{1}{2}$ " " " " BILGE. ✓
- 2- "WILSON-SNYDER" 5"X3 $\frac{1}{2}$ "X8" HORIZ: DUPLEX, FUEL OIL SERVICE PUMPS.
- 2- "NATIONAL TRANSIT" 12"X10"X12" " " " CARGO OIL PUMPS. ✓

J. M. G.