

REPORT ON MACHINERY.

Received at London Office

JAN 1927

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. *Chester, Pa.* (Number of Visits *5*) *DEC. 1926*
 on the *STEEL STERNWHEELER "CASCAJALES"* Gross *444* Tons Net *381*
 Master Built at *Chester, Pa.* By whom built *Sun S B Co* When built *1926*
 Engines made at *Kearny N.J.* By whom made *Federal S B 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 *Sarapiquí, 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 cyl 15" & 2 cyl 30"* Length of Stroke *84"* Revs. per minute *24* Dia. of ~~Screw~~ *Paddle* shaft as per rule *13 1/2"* Material of *nickel 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
 ers are fitted, is the shaft lapped or protected between the liners Length of stern bush
 a. of Tunnel shaft as per rule Dia. of Crank shaft journals as per rule *13 1/2"* Dia. of Crank pin *7"* Size of Crank webs Dia. of thrust shaft under
 lars Dia. of screw Pitch of Screw No. of Blades State whether moceable 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
 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*
 at pipes are carried through the bunkers *F.O. SUCTIONS, CARGO MAINS, BOILER BLOWS* How are they protected *with spigot & steel flange*
 all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times *flushed to outside of*
 the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges *shell plating.*
 the Screw Shaft Tunnel watertight Is it fitted with a watertight door worked from

WHEELS, &c.—(Letter for record *see separate report.*) Manufacturers of Steel *see separate report.*

HEATING SURFACE OF BOILERS Is Forced Draft fitted No. and Description of Boilers *see separate report.*

Working Pressure Tested by hydraulic pressure to *see separate report.* Date of test *see separate report.* No. of Certificate *see separate report.*

each boiler be worked separately Area of fire grate in each boiler *see separate report.* No. and Description of Safety Valves to *see separate report.*
 boiler *see separate report.* Area of each valve *see separate report.* Pressure to which they are adjusted *see separate report.* Are they fitted with easing gear *see separate report.*

Greatest distance between boilers or uptakes and bunkers or woodwork *see separate report.* Mean dia. of boilers *see separate report.* Length *see separate report.* Material of shell plates *see separate report.*

Thickness *see separate report.* Range of tensile strength *see separate report.* Are the shell plates welded or flanged Descrip. of riveting: *see separate report.* cir. seams *see separate report.*

seams *see separate report.* Diameter of rivet holes in long. seams *see separate report.* Pitch of rivets *see separate report.* Lap of plates or width of butt straps *see separate report.*

percentages of strength of longitudinal joint *see separate report.* rivets *see separate report.* Working pressure of shell by rules *see separate report.* Size of manhole in shell *see separate report.*

of compensating ring *see separate report.* No. and Description of Furnaces in each boiler *see separate report.* Material *see separate report.* Outside diameter *see separate report.*

Thickness of plain part *see separate report.* top *see separate report.* Thickness of plates *see separate report.* crown *see separate report.* Description of longitudinal joint *see separate report.* No. of strengthening rings *see separate report.*

Working pressure of furnace by the rules *see separate report.* Combustion chamber plates: Material *see separate report.* Thickness: Sides *see separate report.* Back *see separate report.* Top *see separate report.* Bottom *see separate report.*

of stays to ditto: Sides *see separate report.* Back *see separate report.* Top *see separate report.* If stays are fitted with nuts or riveted heads Working pressure by rules *see separate report.*

Material of stays *see separate report.* Area at smallest part *see separate report.* Area supported by each stay *see separate report.* Working pressure by rules *see separate report.* End plates in steam space: *see separate report.*

Material *see separate report.* Thickness *see separate report.* Pitch of stays *see separate report.* How are stays secured *see separate report.* Working pressure by rules *see separate report.* Material of stays *see separate report.*

at smallest part *see separate report.* Area supported by each stay *see separate report.* Working pressure by rules *see separate report.* Material of Front plates at bottom *see separate report.*

Thickness *see separate report.* Material of Lower back plate *see separate report.* Thickness *see separate report.* Greatest pitch of stays *see separate report.* Working pressure of plate by rules *see separate report.*

Diameter of tubes *see separate report.* Pitch of tubes *see separate report.* Material of tube plates *see separate report.* Thickness: Front *see separate report.* Back *see separate report.* Mean pitch of stays *see separate report.*

across wide water spaces *see separate report.* Working pressures by rules *see separate report.* Girders to Chamber tops: Material *see separate report.* Depth and *see separate report.*

thickness of girder at centre *see separate report.* Length as per rule *see separate report.* Distance apart *see separate report.* Number and pitch of stays in each *see separate report.*

Working pressure by rules *see separate report.* Steam dome: description of joint to shell *see separate report.* % of strength of joint *see separate report.*

Material *see separate report.* Thickness of shell plates *see separate report.* Material *see separate report.* Description of longitudinal joint *see separate report.* Diam. of rivet holes *see separate report.*

of rivets *see separate report.* Working pressure of shell by rules *see separate report.* Crown plates *see separate report.* Thickness *see separate report.* How stayed *see separate report.*

SUPERHEATER. Type *see separate report.* Date of Approval of Plan *see separate report.* Tested by Hydraulic Pressure to *see separate report.*

of Test *see separate report.* Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler *Lloyd's Register*

Material of Safety Valve *see separate report.* Pressure to which each is adjusted *see separate report.* Is Easing Gear fitted *Foundation*

IS A DONKEY BOILER FITTED? *no.*

If so, is a report now forwarded? *no.*

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,

*J. A. Sun Shipbuilding Co
Engine 99.*

*Federal Ship & H. P. Co
Wm. H. Waller Supt of Machinery Manufacturer.*

Dates of Survey while building: *1916 - Aug. 20, Sept. 24, Oct. 18, 24, 27.
Nov. 9, 11, 17, 19, 22, 29, Dec. 10.*
Total No. of visits: *12.*

Is the approved plan of main boiler forwarded herewith *YES.*

Dates of Examination of principal parts — *8-20-26*
Cylinders *10/19/24/27/26* Slides *8/20/26* Covers *10/19/24/27/26* Pistons *9-24-26* Rods
Connecting rods *9-24-26* 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 *✓* Screw shaft and propeller *✓*
Main boiler safety valves adjusted *29-11-26* Thickness of adjusting washers *✓*
Material of Crank shaft *O.H. Steel* Identification Mark on Do. *241 F.I.E* Material of Thrust shaft *✓* Identification Mark on Do. *✓*
Material of Tunnel shafts *✓* Identification Marks on Do. *✓* Material of Screw shafts *✓* Identification Marks on Do. *✓*
Material of Steam Pipes *steel* Test pressure *675 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 *no.* If so, state name of vessel

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 heavy fee
The amount of Entry Fee *\$20.00*
Special *\$338.75*
Donkey Boiler Fee *271*
Travelling Expenses (if any) *\$5.00 (N.Y.K.) 26/2/27*
10.00 (PHILA.)
NEW YORK JAN 12 1927

When applied for, *4 Jan. 1927*
When received, *26/2/27*
H. Mac Watt
J. Buchanan
Engineer Surveyors to Lloyd's Register of Shipping

Committee's Minute
Assigned *+ LMC. 12. 26*

Note Steam Pressure *225 lbs*
Elec. light

CERTIFICATE WRITTEN *22/1/27*



