

REPORT ON MACHINERY.

No. 13414

Received at London Office **THU 18 JAN 1917**

Date of writing Report 25th Nov 1916 When handed in at Local Office 11th Dec 1916 Port of New York
 No. in Survey held at Brooklyn L of Date, First Survey 21st Oct 1916 Last Survey 21st Dec 1916
 Reg. Book. 195 on the S.S. "CITY OF WILMINGTON" ex "CAMINO" (Number of Visits 1)
 Master Booke Built at Long Beach, Cal. By whom built Craig Shipbuilding Co Tons { Gross 3308.92
 Engines made at Long Beach, Cal. By whom made Craig Shipbuilding Co when made 1912
 Boilers made at Toledo, Ohio - Long Beach By whom made Craig Shipbuilding Co when made 1912
 Registered Horse Power 235 Owners Cape Fear Shipping & Trading Co Port belonging to Wilmington, N.C.
 Nom. Horse Power as per Section 28 210 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 22", 36" & 61" Length of Stroke 42" Revs. per minute 90 Dia. of Screw shaft 11.5" Material of screw shaft 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 4'-0"
 Dia. of Tunnel shaft 10.5" Dia. of Crank shaft journals 11.4" Dia. of Crank pin 12" Size of Crank webs 24x8" Dia. of thrust shaft under collars 12" Dia. of screw 14'-0" Pitch of Screw 14'-4" No. of Blades 4 State whether moveable Yes Total surface Yes
 No. of Feed pumps Two Diameter of ditto 2 1/2 x 2 1/4 Stroke 14" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps Two Diameter of ditto 4" Stroke 14" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines Four Sizes of Pumps 8x7x12, 6x5x6, 24x13x10 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 4" Suction to Engine Room tanks In Holds, &c. Two 4" to hold hold, Two 4" suction to hold hold, 4" suction to engine room tank for fuel water.
 No. of Bilge Injections 1 sizes 11" 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 & Cocks
 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
 Dates of examination of completion of fitting of Sea Connections Yes of Stern Tube Yes Screw shaft and Propeller Yes
 Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Yes

BOILERS, &c.—(Letter for record (S)) Manufacturers of Steel
 Total Heating Surface of Boilers 2687 sq ft Is Forced Draft fitted No No. and Description of Boilers 3 Parker Water Tube Boilers
 Working Pressure 165 lbs Tested by hydraulic pressure to 300 lbs Date of test 17th Nov 1916 No. of Certificate Yes
 Can each boiler be worked separately Yes Area of fire grate in each boiler Yes No. and Description of Safety Valves to each boiler Two Spring loaded Area of each valve 9.62 sq ft Pressure to which they are adjusted 170 lbs Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 3'-6" Mean dia. of boilers 5'-4" Length 11'-11" Material of shell plates Steel
 Thickness 5/16"-3/4" Range of tensile strength 61300 lbs Are the shell plates welded or flanged Flanged Descrip. of riveting: cir. seams DR Lap
 long. seams With Rivets Diameter of rivet holes in long. seams 5/16" Pitch of rivets 5 1/2" Lap of plates or width of butt straps 15"
 Per centages of strength of longitudinal joint 82 1/2% Working pressure of shell by rules 200 lbs Size of manhole in shell 11x15"
 Size of compensating ring Yes No. and Description of Furnaces in each boiler One 7'-6" x 5'-0" Material Yes Outside diameter Yes
 Length of plain part Yes Thickness of plates Yes Description of longitudinal joint Yes No. of strengthening rings Yes
 Working pressure of furnace by the rules Yes Combustion chamber plates: Material Yes Thickness: Sides Yes Back Yes Top Yes Bottom Yes
 Pitch of stays to ditto: Sides Yes Back Yes Top Yes If stays are fitted with nuts or riveted heads Yes Working pressure by rules Yes
 Material of stays Yes Diameter at smallest part Yes Area supported by each stay Yes Working pressure by rules Yes End plates in steam space: Material Steel Thickness 1/2" Pitch of stays 15" How are stays secured Nuts & Washers Working pressure by rules 165 lbs Material of stays Steel
 Diameter at smallest part 1 3/4" Area supported by each stay 81 sq ft Working pressure by rules 270 lbs Material of Front plates at bottom Yes
 Thickness Yes Material of Lower back plate Yes Thickness Yes Greatest pitch of stays Yes Working pressure of plate by rules Yes
 Diameter of tubes Yes Pitch of tubes Yes Material of tube plates Yes Thickness: Front Yes Back Yes Mean pitch of stays Yes
 Pitch across wide water spaces Yes Working pressures by rules Yes Girders to Chamber tops: Material Yes Depth and thickness of girder at centre Yes Length as per rule Yes Distance apart Yes Number and pitch of stays in each Yes
 Working pressure by rules Yes Superheater or Steam chest; how connected to boiler Yes Can the superheater be shut off and the boiler worked separately Yes Diameter Yes Length Yes Thickness of shell plates Yes Material Yes Description of longitudinal joint Yes Diam. of rivet holes Yes Pitch of rivets Yes Working pressure of shell by rules Yes Diameter of flue Yes Material of flue plates Yes Thickness Yes
 If stiffened with rings Yes Distance between rings Yes Working pressure by rules Yes End plates: Thickness Yes How stayed Yes
 Working pressure of end plates Yes Area of safety valves to superheater Yes Are they fitted with easing gear Yes

W931-0097

VERTICAL DONKEY BOILER— Manufacturers of Steel

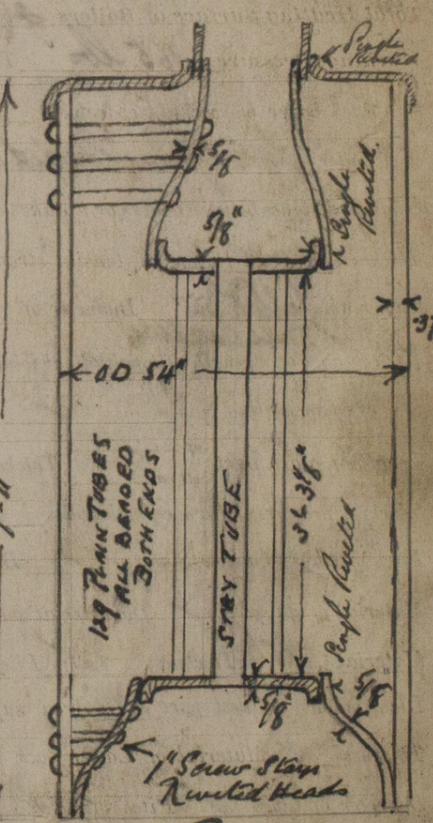
No. _____ Description *Vertical Multitubular*
 Made at *Lucas Ohio* By whom made *Marine Boiler Works* When made *1912* Where fixed *Upper Deck*
 Working pressure *100* tested by hydraulic pressure to *180 lb* Date of test *20th Nov 1916* No. of Certificate _____ Fire grate area *10.5 sq ft* Description of Safety
 Valves *The Sprung loaded* No. of Safety Valves *1* Area of each *4.9 sq in* Pressure to which they are adjusted *100 lb* Date of adjustment *17/11/16*
 If fitted with casing gear *Yes* If steam from main boilers can enter the donkey boiler *No* Dia. of donkey boiler *54"* Length *7'-11"*
 Material of shell plates *Steel* Thickness *.375* Range of tensile strength *60,000 lb* Descrip. of riveting long. seams *SR Lap*
 Dia. of rivet holes *5/16* Whether punched or drilled *Drilled* Pitch of rivets *3.125* Lap of plating _____ Per centage of strength of joint Rivets *88%* Plates *89%*
 Working pressure of shell by rules *104 lb* Thickness of shell crown plates _____ Radius of do. _____ No. of stays to do. _____ Dia. of stays _____
 Diameter of furnace Top *40"* Bottom *40"* Length of furnace *48"* Thickness of furnace plates *9/8"* Description of joint *Single Lap*
 Working pressure of furnace by rules *100 lb* Thickness of furnace crown plates _____ Radius of do. _____ Stayed by _____
 Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____ Dates of survey *17th + 18th Nov 1916*

SPARE GEAR. State the articles supplied:— *Two Connecting Rods Two Top end bolts Two Bottom End Bolts Nuts Four Main Bearings Bolts 2 Sets of Coupling Bolts Two sets of Lead & Pelge pump valves Spun Piston Rings Bolt Nuts and Iron of various sizes*
 The foregoing is a correct description,
 Manufacturer.

Dates of Survey while building: During progress of work in shops --- During erection on board vessel --- Total No. of visits _____
 Is the approved plan of main boiler forwarded herewith *Yes*
 " " " donkey " " " *None*

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 _____ Engine and boiler seatings _____ Engines holding down bolts _____
 Completion of pumping arrangements _____ Boilers fixed _____ Engines tried under steam _____
 Main boiler safety valves adjusted _____ Thickness of adjusting washers _____
 Material of Crank shaft _____ Identification Mark on Do. _____ 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 *Copper* Test pressure *320 lb*

General Remarks (State quality of workmanship, opinions as to class, &c.)
The Engines have been opened up and examined over all parts and the workmanship of finish and of appears good, the Engines were tried under steam under full working conditions with satisfactory results. Pumping arrangement tested and found in order.
The Vessel is fitted with three water tube boilers of the Parker type. The drums and tubes junction boxes have been examined and the workmanship thereof appears good.
The Donkey Boiler has been examined externally under pressure and found in good condition.
The Machinery of this Vessel is eligible in my opinion to be classed in the Society's Register Book with Record of L.M.C. 1916 and T.S. 1916, subject to main Boilers (Water Tube) being surveyed annually.



The amount of Entry Fee .. £ *15* : : When applied for, _____
 Special £ *299.89* : : *3.1.17*
 Donkey Boiler Fee £ *314.89* : : When received, *28/1/17*
 Travelling Expenses (if any) £ : : *12.1.17*

John D. Robson
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute New York JAN + 1917

Assigned *See other report*



Certificate (if required) to be sent to _____
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)