

REPORT ON MACHINERY.

Received at London Office

TUE. MAR. 11. 1913

Date of writing Report July 20th 1913 When handed in at Local Office 19 Port of Boston

No. in Survey held at Quincy Mass. Date, First Survey April 8th 1912 Last Survey February 18-19 13

Reg. Book. 37 Supp. on the S/S "FRIEDA" (Number of Visits 30) Gross 2993.61 Tons Net 1633.

Master Arthur D. Mc Gray Built at Quincy By whom built Joe River Shipbuilding Co. When built 1913.

Engines made at Quincy Mass. By whom made Joe River Shipbuilding Co. when made 1912

Boilers made at Bath Me By whom made Bath Iron Works when made 1912

Registered Horse Power 372 Owners Union Sulphur Co. Port belonging to New York

Nom. Horse Power as per Section 28 372 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders Three No. of Cranks Three

Dia. of Cylinders 22 1/2 - 39 - 63 Length of Stroke 48 Revs. per minute 75 Dia. of Screw shaft as per rule 13.4 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' 6 3/4"

Dia. of Tunnel shaft as per rule 12.21 Dia. of Crank shaft journals as per rule 12.82 Dia. of Crank pin 13 Size of Crank webs 9 x 26 Dia. of thrust shaft under collars 13 Dia. of screw 16' 0" Pitch of Screw 17' 0" No. of Blades 4 State whether moveable Yes Total surface 79.50

No. of Feed pumps 2 Diameter of ditto 9 x 6 Stroke 10 Can one be overhauled while the other is at work Yes

No. of Bilge pumps Two Diameter of ditto 4 1/2 Stroke 18 Can one be overhauled while the other is at work Yes

No. of Donkey Engines Two Sizes of Pumps 10 x 12 x 10 No. and size of Suctions connected to both Bilge and Donkey pumps one 4" or 6" pump for coffee drum and 100 3" tanks

In Engine Room 5 1/2 In Holds, &c. Seven 3 1/2

No. of Bilge Injections 1 sizes 8" Connected to condenser or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes 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 and 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 None

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 October 21st of Stern Tube October 22nd Screw shaft and Propeller October 22nd

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Yes

BOILERS, &c.—(Letter for record Yes) Manufacturers of Steel Report on boiler enclosed

Total Heating Surface of Boilers Yes Is Forced Draft fitted Yes No. and Description of Boilers Two S.E. Multitubular

Working Pressure Yes Tested by hydraulic pressure Yes Date of test Yes No. of Certificate 3

Can each boiler be worked separately Yes Area of fire grate in each boiler Yes No. and Description of Safety Valves to each boiler Duplex spring 3 1/2 Area of each valve 9.62 Pressure to which they are adjusted 190 lbs Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 8' 6" Mean dia. of boilers Yes Length Yes Material of shell plates Yes

Thickness Yes Range of tensile strength Yes Are the shell plates welded or flanged Yes Descrip. of riveting: cir. seams Yes

long. seams Yes Diameter of rivet holes in long. seams Yes Pitch of rivets Yes Lap of plates or width of butt straps Yes

Per centages of strength of longitudinal joint Yes Working pressure of shell by rules Yes Size of manhole in shell Yes

Size of compensating ring Yes No. and Description of Furnaces in each boiler Yes 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: Yes

Material Yes Thickness Yes Pitch of stays Yes How are stays secured 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 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

VERTICAL DONKEY BOILER— Manufacturers of Steel

No. _____ Description _____

Made at _____ By whom made _____ When made _____ Where fixed _____

Working pressure tested by hydraulic pressure to _____ Date of test _____ No. of Certificate _____ Fire grate area _____ Description of Safety _____

Valves _____ No. of Safety Valves _____ Area of each _____ Pressure to which they are adjusted _____ Date of adjustment _____

If fitted with casing gear _____ If steam from main boilers can enter the donkey boiler _____ Dia. of donkey boiler _____ Length _____

Material of shell plates _____ Thickness _____ Range of tensile strength _____ Descrip. of riveting long. seams _____

Dia. of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____ Lap of plating _____ Per centage of strength of joint _____ Rivets _____ Plates _____

Working pressure of shell by rules _____ Thickness of shell crown plates _____ Radius of do. _____ No. of stays to do. _____ Dia. of stays _____

Diameter of furnace Top _____ Bottom _____ Length of furnace _____ Thickness of furnace plates _____ Description of joint _____

Working pressure of furnace by rules _____ Thickness of furnace crown plates _____ Radius of do. _____ Stayed by _____

Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____ Dates of survey _____

SPARE GEAR. State the articles supplied: *Tail shaft, crank section, Propeller boss and blades, one set of top end brasses and bolts, one set of bottom end brasses and two sets of bolts, two sets of main bearing bolts, one set of coupling bolts, one set of piston rings for each cylinder, set of valve seats and valves for each pump, thirty spare condenser tubes, eight boiler tubes and assorted bolts and nuts.*

Fore River Shipbuilding Co.
S. J. Maduvario Manufacturer.

Dates of Survey while building: During progress of work in shops -- *April 8, 12, 25, 30, May 2, June 12, 18, Aug 2, Sept. 10, 12, 13, 27, 28, Oct. 10, 14, 21, 22*

During erection on board vessel -- *Oct. 29, 31, Nov. 1, 4, 11, 26, Dec. 3, 9, 21, 23, 26, 30, January 3, 9, 15, 23, Feb. 18*

Total No. of visits *34*

Is the approved plan of main boiler forwarded herewith *Yes*

Is the approved plan of donkey boiler forwarded herewith *Yes*

Dates of Examination of principal parts—Cylinders *Sept. 13*, Slides *Sept. 10*, Covers *Sept. 10*, Pistons *Sept. 13*, Rods *Sept. 27*

Connecting rods *Sept. 27*, Crank shaft *Sept. 28*, Thrust shaft *Aug 2*, Tunnel shafts —, Screw shaft *Oct. 10*, Propeller *Oct. 14*

Stern tube *Sept. 13*, Steam pipes tested *Nov. 11*, Engine and boiler seatings *Oct. 21*, Engines holding down bolts *Nov. 26 Dec 26*

Completion of pumping arrangements *Dec 21*, Boilers fixed *Nov. 4*, Engines tried under steam *Dec. 21*

Main boiler safety valves adjusted *Dec 30*, Thickness of adjusting washers *P.B. tubes (P 4 3/2 5 1/2) S. Boiler (P 9 1/2 5 7/16)*

Material of Crank shaft *Steel*, Identification Mark on Do. *L.S. 105*, Material of Thrust shaft *Steel*, Identification Mark on Do. *98*

Material of Tunnel shafts —, Identification Marks on Do. *S.M.*, Material of Screw shaft *Steel*, Identification Marks on Do. *12 12 17 52*

Material of Steam Pipes *Steel*, Test pressure *380 pounds per square inch*

General Remarks (State quality of workmanship, opinions as to class, &c. *Am at sea pump has been fitted to pump the copper dam and NO. 3 tank as amended and requested by Mr. Simpson the Naval Architect for the Union Sulphur Company. The vessel is fitted to burn Liquid Fuel, and a record of the same should be made in the Register Book. The machinery and boilers have been built under special survey, the materials and workmanship throughout are good and in my opinion eligible for the record of + L.M.C. 2.13. and liquid fuel.*

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 2.13.

Fitted for Oil fuel 2.13 F.P. above 150°F.

F.D.

Boiler plan not received at this date.

The amount of Entry Fee .. *810.00*

Special .. *2193.00*

Donkey Boiler Fee .. *5*

Travelling Expenses (if any) *8118.00*

When applied for *Feb. 21 1913*

When received, *23. 3. 13*

J.W.D.
17/3/13
Stewart Mumpsey
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute *FRI. APR. 11 1913*

Assigned *Home 2.13*
filled for oil fuel 2.13
FP above 150°F



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

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