

REPORT ON BOILERS.

No. 20429

Date of writing Report *12th May 1921* When handed in at Local Office *New York* Port of *New York + Jacksonville*
 No. in Survey held at *Kearny, New Jersey* Date, First Survey *8th Dec 1919* Last Survey *13 January 1920*
 Reg. Book. *110/0* on the *Steel Sloop Steamer "BYRON D. BENSON"* Hull *12* (Number of Visits *48*) Gross *8811.92* Tons Net *5108*
 Master *[blank]* Built at *Tampa, Florida* By whom built *Oscar Daniels Co* When built *1922-1*
 Engines made at *New Jersey* By whom made *Vulcan Iron Works* When made *1921*
 Boilers made at *Kearny, N.J.* By whom made *Federal Ship Building Co* When made *1920*
 Registered Horse Power *[blank]* Owners *Standard Oil Co. Newark, N.J.* Port belonging to *New York*

MULTITUBULAR BOILERS—MAIN, AUXILIARY OR DONKEY.—Manufacturers of Steel *Carnegie-Illinois Steel Co*

(Letter for record *S*) Total Heating Surface of Boilers *2806 sq ft* Is forced draft fitted *Yes* No. and Description of Boilers *1-3 Furnace Single Ended Scotch Working Pressure 220 lbs* Tested by hydraulic pressure to *330 lbs* Date of test *18-8-20*
 No. of Certificate *373* Can each boiler be worked separately *Yes* Area of fire grate in each boiler *Oil burning* No. and Description of safety valves to each boiler *2 - 3 1/2 Twin spring* Area of each valve *9.62 sq in* Pressure to which they are adjusted *220 lbs.*
 Are they fitted with easing gear *Yes* In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler *No.*
 Smallest distance between boilers or uptakes and bunkers or woodwork *8 1/2"* Inside Main dia. of boilers *15'-0"* Length *11'-6"*
 Material of shell plates *S* Thickness *1 3/16"* Range of tensile strength *28 to 32 tons* Are the shell plates welded or flanged *No*
 Descrip. of riveting: cir. seams *DRL* long. seams *TR/DBS* Diameter of rivet holes in long. seams *1 5/8"* Pitch of rivets *9 3/8"*
 Lap of plates or width of butt straps *23 3/8"* Per centages of strength of longitudinal joint rivets *102* plate *82.6* Working pressure of shell by rules *239#* Size of manhole in shell *16x12"* Size of compensating ring *36 3/4 x 32 3/4"* No. and Description of Furnaces in each boiler *3 Morrison* Material *S* Outside diameter *48 3/8"* Length of plain part *top 1 1/2"* Thickness of plates *bottom 1/16"*
 Description of longitudinal joint *Weld* No. of strengthening rings *1* Working pressure of furnace by the rules *234#* Combustion chamber plates: Material *S* Thickness: Sides *2/32"* Back *3/4"* Top *2/32"* Bottom *1"* Pitch of stays to ditto: Sides *7x7"* Back *7 1/2 x 8"*
 Top *7x8"* If stays are fitted with nuts or riveted heads *Yes* Working pressure by rules *T=263, S=239, S=223, S=279, S=330* Material of stays *S* Area at smallest part *1.8"* Area supported by each stay *T=56.8, S=60.0, S=49.0* Working pressure by rules *T=289#, S=270#, S=330* End plates in steam space: Material *S* Thickness *1 1/8"*
 Pitch of stays *15x16"* How are stays secured *D. Nuts* Working pressure by rules *236#* Material of stays *S* Area at smallest part *594"*
 Area supported by each stay *240"* Working pressure by rules *255#* Material of Front plates at bottom *S* Thickness *1"* Material of Lower back plate *S* Thickness *1"* Greatest pitch of stays *12 3/4 x 7 1/2"* Working pressure of plate by rules *234#* Diameter of tubes *2 3/4"*
 Pitch of tubes *3 3/4 x 4"* Material of tube plates *S* Thickness: Front *1"* Back *1 3/16"* Mean pitch of stays *8x11 1/4"* Pitch across wide water spaces *12 3/4 x 7 1/2"* Working pressures by rules *220#* Girders to Chamber tops: Material *S* Depth and thickness of girder at centre *10" x 1 5/16"* Length as per rule *35"* Distance apart *8"* Number and pitch of Stays in each *4 at 7"*
 Working pressure by rules *283#* Steam dome: description of joint to shell *Yes* % of strength of joint *Yes*
 Diameter *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* Crown plates *Yes* Thickness *Yes* How stayed *Yes*

UPERHEATER. Type *Yes* Date of Approval of Plan *[blank]* Tested by Hydraulic Pressure to *[blank]*
 Date of Test *[blank]* Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler *[blank]*
 Diameter of Safety Valve *[blank]* Pressure to which each is adjusted *[blank]* Is Easing Gear fitted *[blank]*

The foregoing is a correct description,
The Federal Shipbuilding Co., New York, N.Y., Manufacturer.

Dates of Survey *1919 Dec. 19, 1920 Jan. 2, 10, 13, 14, 15, 16, 17, 20, 22, 23, 24, May 20, 21* Is the approved plan of boiler forwarded herewith *[blank]*
 while building *July 27, 28, 31 Aug 10, 1921 June 1, 7, 17, July 9, 21, Aug. 7, 15, 23, Sept. 5, 16, 17, 27, Oct. 3, 6, 18, 25, 30, Nov. 6, 27, Dec. 13, 21, 29, 1922 Jan. 19* Total No. of visits *48*

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

The above boiler has been constructed under Special Survey in accordance with the approved plan. The material & workmanship so far as can be seen are sound good & proved satisfactory under test. The boiler is eligible in my opinion to the notation in the Register Book N.B. 5-21 fitted for oil fuel

Survey Fee ... *See machinery report* When applied for, *[blank]* 191
 Travelling Expenses (if any) *See machinery report* When received, *[blank]* 191

Committee's Minute *New York JAN 31 1922*
 Assigned *See fax 438*
J. Hockhart for L. Nosworthy,
Hugh Boyle,
 Engineer Surveyor to Lloyd's Register of Shipping.



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