

REPORT ON BOILERS.

Received at London Office

Date of writing Report July 1, 1920. When handed in at Local Office July 1, 1920. Port of Portland, Oregon.

No. in Survey held at Portland, Oregon Date, First Survey Apr. 5, 1920 Last Survey June 12, 1920

Reg. Book. on the Boilers for Bethlehem Steel Hull No. 5304 (Number of Visits 19) Tons Gross Net

Master Built at By whom built When built

Engines made at By whom made When made

Boilers made at Portland, Oregon By whom made Willamette Iron & Steel Works When made 1920

Registered Horse Power Owners Port belonging to

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

Letter for record) Total Heating Surface of Boilers 8235 Is forced draft fitted Yes No. and Description of June 7, 9

Boilers 3 single end Scotch Marine Working Pressure 220 Tested by hydraulic pressure to 330 Date of test & 12, 1920

No. of Certificates 173 Can each boiler be worked separately Area of fire grate in each boiler No. and Description of

safety valves to each boiler Area of each valve Pressure to which they are adjusted

Are they fitted with easing gear In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler

Smallest distance between boilers or uptakes and bunkers or woodwork Mean dia. of boilers 15'0" inside Length 11'-9"

Material of shell plates Steel Thickness 1-11/16" Range of tensile strength 60,000 Min. Are the shell plates welded or flanged Hds. Flanged

Descrip. of riveting: cir. seams long. seams Triple Riveted double butt straps Diameter of rivet holes in long. seams 1-9/16" Pitch of rivets 10"

Lap of plates or width of butt straps 22-3/8 Per centages of strength of longitudinal joint rivets 91.5 Working pressure of shell by

rules 246 Size of manhole in shell 12" x 16" Size of compensating ring 1-11/16 x 32 1/2 x 38" No. and Description of Furnaces in each

boiler 3 Morrison Material Steel Outside diameter 48-3/32" Length of plain part top Thickness of plates crown 43/64"

Description of longitudinal joint No. of strengthening rings Working pressure of furnace by the rules 229 Combustion chamber

plates: Material Steel Thickness: Sides 11/16" Back 11/16" Top 11/16" Bottom 15/16" Pitch of stays to ditto: Sides 6 3/4" x 7 1/2" Back 7 3/2" x 7 9/16"

Top 6 3/4" x 8" If stays are fitted with nuts or riveted heads Riveted Hds Working pressure by rules 221 Material of stays Steel Area at

smallest part 1.76/ sq. in. Area supported by each stay 7-7/32" Working pressure by rules 257 End plates in steam space: Material Steel Thickness 1 1/4"

Pitch of stays 17 1/8 x 17 3/4 How are stays secured nuts Working pressure by rules 229.5 Material of stays Steel Area at smallest part 8.2958

Area supported by each stay 17 1/8 x 17 3/4 Working pressure by rules 283 Material of Front plates at bottom Steel Thickness 15/16" Material of

Lower back plate Steel Thickness 13/16" Greatest pitch of stays 13" Working pressure of plate by rules 387 Diameter of tubes 3"

Pitch of tubes 4 1/8 x 4 1/8 Material of tube plates Steel Thickness: Front 15/16" Back 7/8" Mean pitch of stays 10-5/16" Pitch across wide

water spaces 13" Working pressures by rules 228 Girders to Chamber tops: Material Steel Depth and thickness of

girder at centre 3/4 x 10 1/2 Plate Length as per rule 34" Distance apart 8" Number and pitch of Stays in each 4-6 3/4"

Working pressure by rules 237 Steam dome: description of joint to shell % of strength of joint

Diameter Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes

Pitch of rivets Working pressure of shell by rules Crown plates Thickness How stayed

SUPERHEATER. Type Date of Approval of Plan Tested by Hydraulic Pressure to

Date of Test Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

Diameter of Safety Valve Pressure to which each is adjusted Is Easing Gear fitted

VERTICAL DONKEY BOILER— No. Description Manufacturers of steel

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 If fitted with easing 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

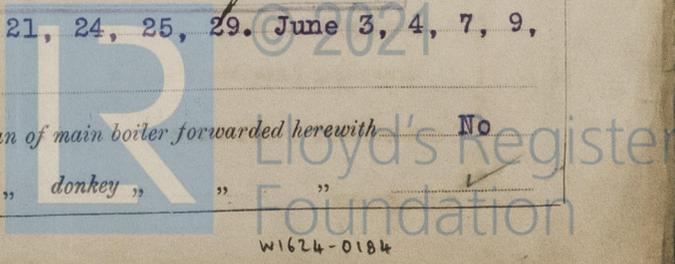
plates Radius of do. Stayed by Diameter of uptake Thickness of uptake plates

Thickness of water tubes

The foregoing is a correct description, WILLAMETTE IRON & STEEL CO. Manufacturer.

Dates of Survey while building { During progress of work in shops - - Apr. 5, 12, 30. May 3, 6, 8, 11, 12, 19, 20, 21, 24, 25, 29. June 3, 4, 7, 9, 12, During erection on board vessel - - - Total No. of visits

Is the approved plan of main boiler forwarded herewith No



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

The three Main Boilers have been constructed under special survey in accordance with the Rules and to the approved plans. The material, tested by the Society's Surveyors, is sound and good and the workmanship good. The Boilers have been forwarded to San Francisco, Calif. to be fitted on board the Union Iron Works' Hull No. 5304.

Rpt. 13.

REP

Port of SA

No. in Reg. Book on the Built

Owners Standard

Yard No. 5304

DESCRIPTION OF

2 G. E. Ge

each

Capacity of/Dynam

Where is Dynamo

Position of Main S

Positions of auxil

switches. C

If fuses are fitted

circuits Ye

If vessel is wired

Are the fuses of

Are all fuses fitted

are permanen

Are all switches an

Total number of li

A 85

B 104

C 85

D 21

E

1 Mast hea

2 Side

3

If arc lights, what

Where are the sw

DESCRIPTION OF

Main cable carrying

Branch cables carr

Branch cables carr

Leads to lamps carr

Cargo light cables ca

DESCRIPTION OF

All

Joints in cables, hou

Are all the joints of

positions, none

Are there any joints

How are the cables

Certificate (if required) to be sent to

The amount of Entry Fee .. \$: : When applied for.
 1/3rd Special Portland.. \$ 84 : 00 : July 17 20
 Donkey Boiler Fee .. \$: : When received.
 Travelling Expenses (if any) £ : :
 See S. to 1st. E. Rpt. 3394.
 Committee's Minute New York NOV 23 1920
 Assigned See S. to Rpt. No. 3394

J. A. Yates

Engineer Surveyor to Lloyd's Register of Shipping.



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