

Rpt. 5.

REPORT ON BOILERS.

No. 631

Received at London Office

FRI. 18 NOV. 1921

Date of writing Report **May 6, 1921** When handed in at Local Office **May 6, 1921** Port of **Portland, Oregon,**

No. in Survey held at **Portland, Oregon.** Date, First Survey **Jan. 3, 1921** Last Survey **April 23, 1921.**

Reg. Book. **Southwestern Shipbuilding Company's hull No. 26** (Number of Visits **15**)

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 **1921**

Registered Horse Power _____ Owners _____ Port belonging to _____

MULTITUBULAR BOILERS—MAIN, ~~XXXXXXXXXXXXXXXXXXXX~~ Manufacturers of Steel **Midvale Steel & Ordnance Co.**

(Letter for record _____) Total Heating Surface of Boilers **8451** Is forced draft fitted _____ No. and Description of Boilers **3-Single Ended Scotch** Working Pressure **180** Tested by hydraulic pressure to **320** Date of test **April 23, 1921.**

No. of Certificate **243.** 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 casing 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'-6"** Length **11'-7"**

Material of shell plates **Steel** Thickness **1-5/16"** Range of tensile strength **71680** Are the shell plates welded or flanged **Hds. Flanged**

Descrip. of riveting: cir. seams **D.R.** long. seams **Double Butt Straps** Diameter of rivet holes in long. seams **1-7/16"** Pitch of rivets **9 1/2-4 1/2**

Lap of plates or width of butt straps **20"** Per centages of strength of longitudinal joint _____ Working pressure of shell by rules **191** Size of manhole in shell **12"x16"** Size of compensating ring **40"x36"x1 1/2"/32"**

boiler **3 Morrison** Material **Steel** Outside diameter **49-3/16"** Length of plain part _____ Thickness of plates crown **19/32"** bottom _____

Description of longitudinal joint _____ No. of strengthening rings _____ Working pressure of furnace by the rules **192** Combustion chamber plates: Material **Steel** Thickness: Sides **23/32"** Back **23/32"** Top **23/32"** Bottom **25/32"** Pitch of stays to ditto: Sides **7 1/2"x8 1/2"** Back **7 1/2"x8 1/2"**

Top **8 1/2"x10 1/2"** If stays are fitted with nuts or riveted heads **Nuts & R.H.** Working pressure by rules **195** Material of stays **Steel** Area at smallest part **1 1/2-2.061** supported by each stay **65.87** Working pressure by rules **180** End plates in steam space: Material **Steel** Thickness **1-5/16"**

Pitch of stays **19x21 1/2"** How are stays secured **Double Nuts** Working pressure by rules **187** Material of stays **Steel** Area at smallest part **7.67**

Area supported by each stay **408.5** Working pressure by rules **195** Material of Front plates at bottom **Steel** Thickness **3/4"** Material of Lower back plate **Steel** Thickness **7/8** Greatest pitch of stays **13-5/8** Working pressure of plate by rules **205** Diameter of tubes **2 1/2"**

Pitch of tube **Vertical 3 1/2"** Horiz. **3-7/8"** Material of tube plates **Steel** Thickness: Front **3/4"** Back **3/4"** Mean pitch of stays **9 1/2"** Pitch across wide water spaces **14-3/8"** Working pressures by rules **195 lbs.** Girders to Chamber tops: Material **Steel** Depth and thickness of girder at centre **3/4"x11"** Length as per rule **34"** Distance apart **10 1/2"** Number and pitch of Stays in each **3-8 1/2"**

Working pressure by rules **203** 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 _____

UPERHEATER. 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 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 _____ 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 _____

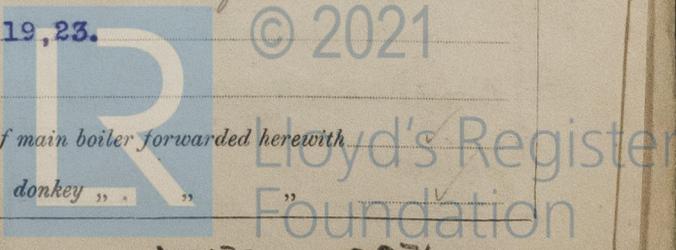
Thickness of water tubes _____

The foregoing is a correct description,
Willamette Iron & Steel Works Manufacturer.

Dates Survey while building: During progress of work in shops - - **Jan. 3, Feb. 23, 28, Mar. 3, 7, 8, 9, 14, Apr. 1, 7, 11, 13, 14, 19, 23.**

During erection on board vessel - - -
 Total No. of visits **15.**

Is the approved plan of main boiler forwarded herewith _____



W1324-0076

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, at Portland, Oregon, and to the approved plan; the material, tested by the Society's Surveyors, is sound and good and the workmanship good. The boilers have been forwarded to San Francisco to be fitted on board the Southwestern Shipbuilding Co.'s hull No. 26.

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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.)

The amount of Entry Fee .. £	:	:	When applied for.
2/5th Special Mach. fee .. £	:	:19.....
to be credited to Portland.	:	:	
Donkey Boiler Fee £	:	:	When received.
Travelling Expenses (if any) £	:	:19.....

*See S 70 1st E. Mach.
Rpt. no. 3726.*

J.A. Yates

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute New York NOV - 1 1901

Assigned

See S 70. 3627



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