

REC'D NEW YORK FEB - 7 1921

See S. To. 1st Entry Rpt. No. 3446.

## REPORT ON BOILERS.

No. 607

Received at London Office

FRL 26 FEB 1921

Date of writing Report

191

When handed in at Local Office

191

Port of

Portland, Oregon

No. in Survey held at Portland, Oregon

Date, First Survey July 19th

Last Survey July 31st

1920

Reg. Book.

on the Boilers for Bethlehem Steel Hull No. 5307

(Number of Visits 6)

Gross

Tons

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 &amp; Steel Works

When made

1920

Registered Horse Power

Owners

Port belonging to

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

Letter for record

(S)

Total Heating Surface of Boilers 3 BLRS 8235

Is forced draft fitted

Yes

No. and Description of

Boilers 3 single end Scotch Marine

Working Pressure 220

Tested by hydraulic pressure to 330

Date of test 7-29-1920

No. of Certificate 189-190-191

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

inside

Smallest distance between boilers or uptakes and bunkers or woodwork

Mean dia. of boilers 15'-0" / Length 11'-9"

Material of shell plates Steel

Thickness 1-11/16"

Range of tensile strength 60000 Min Are the shell plates welded or flanged Heads flanged

Descrip. of riveting: cir. seams

long. seams Triple Rivet

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"x16"

Size of compensating ring 1-11/16"x32 1/2"

No. and Description of Furnaces in each

Boiler 3 Morison

Material Steel

Outside diameter 48-3/32"

Length of plain part

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"x7 1/2"

Back 7-7/32"x7-9/16"

Top 6 3/4"x8"

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"

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"

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" O.D

Pitch of tubes 4-1/8"

Material of tube plates Steel

Thickness: Front 15/16"

Back 7/8"

Mean pitch of stays 10-15/16"

Pitch across wide

water spaces 13"

Working pressures by rules 258

Girders to Chamber tops: Material Steel

Order at centre 3/4x10 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 228

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

Length

Descrip. of riveting long. seams

Dia. of rivet holes

Whether punched or drilled

Pitch of rivets

Top 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

utes

Radius of do.

Stayed by

Diameter of uptake

Thickness of uptake plates

Thickness of water tubes

The foregoing is a correct description,

Manufacturer.

Dates { During progress of work in shops - - }  
Survey { During erection on board vessel - - }  
while { Total No. of visits Six }  
building

July 19-20-27-28-29-31

Is the approved plan of main boiler forwarded herewith yes

" " " donkey " "

W1641-0105

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Lloyd's Register Foundation



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

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. 5307.

Port of SA  
No. in on the  
Reg. Book Built  
Owners General  
Yard No. 5307

DESCRIPTION  
2 G. E.

each  
Capacity of Dyn  
Where is Dynam  
Position of Main  
Positions of au  
switches

If fuses are f  
circuits

If vessel is wi

Are the fuses

Are all fuses

are perm

Are all swite

Total number

A 8

B 1

C 8

D 1

E

1

2

3

If arc ligh

Where ar

DESRIPT

Main cabl

Branch co

Branch

Leads to

Cargo lig

DESCRI

Jointe

Are al

Are th

How

Certificates (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.  
1/3 Special Portland. \$ 84.00 : : Aug. 17.....19. 20  
Donkey Boiler Fee .. £ : : When received.  
Travelling Expenses (if any) : : 19.....  
See 1st Entry  
See Rpt. No. 3446

Committee's Minute  
Assigned

See S. To Rpt 3446

New York FEB - 8 1921

J. H. Yates  
Engineer Surveyor to Lloyd's Register of Shipping.